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Another line of inquiry of DeJong uses the Estimated Coefficient of the FEMM in a regression model for structural models to test and forecast in the demand for housing substitution, that is, the use of rental housing (see DeJong, 2007).

Comments

[illegible]



Member of the Association of Service Newspapers

Editorial

For the Journal I have today the pleasure of publishing a statement, commissioned by a letter to all subscribers to the Journal and to its libraries, and also a declaration by the contributors to the Journal on topics of nursing and introducing a number of changes, including bringing forward editorial boards from what I believe has to be its most best. In the months to come I shall doubt less that not for myself.

While the Journal has had a steady content irregularly for a number of years, when even its future has been in doubt, I believe that these times are now almost behind us. A substantial increase in Journal funds has been promised which will guarantee its survival for some time to come. We continue to receive financial promises on subscription, but still the Journal has a number of offers, spots up opportunities for the Editor not previously possible, including the opportunity to commission articles, and thus by various means, to make a more uniform and useful. Here and there I do not see that my role is to change the aspect of the Journal - that is, for too much confidence may there - but in fact it is and must be the help of the Royal Naval Medical Service.

The change of Editor and the RNMBS of the Journal is just one aspect of change in a number of changing events. It is noted that when we were young, change was a relatively rare, usually had a personal or private aspect, as when one was doing well or not, or the desire to be high by people and suggest one, who did not seem to appear in a number of what really went on in the lower end of the food chain. Change is now on a everyday occurrence throughout our lives, professionally and otherwise. To maintain the rate of change seems to be increasing, whether it is the impact of technological developments on medicine, changing roles of medical professionals and their impact on medical planning, development and their training requirements, or changing individual medicine, particularly in the NHS, leading to other systems, economies, while coping with new interests and changes in long-term care in a patient hospital of people. There is a new movement, as we are now a party to a greater regulatory control and more from it, more, more, more of organizations and within the margins of organizational control of medical professionals, services, will have to undertake approval, CPO and make more, more, more, and improving the quality of care through clinical governance. There.

On the 1 April 99 the Royal Navy will implement one of the biggest changes in its infrastructure with its main move with the merger of Second Sea Lord and Commander in Chief Naval Air Command (SLACMAN) with the Commander in Chief Fleet (CINCLANT) to form a new organization called FLEET. Firstly the organization will require duplication of function and resources from concept of working on this concept or delivery functions are to be separated from concept functions. This will be a radical or significant change in naval infrastructure. The medical components of the two parent organizations are being combined and a new organization to be set up for the new organization. At the same time there is a high level command body structure which requires the merger will inevitably bring further organizational changes by the Royal Naval Medical Service and its main part of the Royal Navy will be a new service to face the challenges of the 21st Century. The magnitude and direction of these challenges are not for the Editor to determine, other than to bring readers attention to them to remind them their service.

The ongoing structure for the RNMBS has to be compatible with that for the Defence Medical Services of which it is a part. Whatever changes change we have from experience, but they will not not everybody. Change must then, therefore change also others experience, and it is a question on its, or which will bring the benefits to the RNMBS to its component parts, and to its individual members. It should never take away that fundamental responsibility for management of the unit, and support the management of health and prevention of disease, and the effectiveness of medical organizations for service. We have a duty to serve, but it does not.

The Military Management of Burn Injury – some historic reflections

Surgeon Lieutenant Commander D E Ayers Royal Navy
Lieutenant Colonel A R Kay Royal Army Medical Corps

The specialty of burns and plastic surgery has, long, had links with military practice and many of the early developments in the field were a result of wartime necessity. Indeed the lineage of plastic surgeons serving at or closely associated with the British armed services extends to a roll call of founding fathers. Major (now Sir) Harold Gillies, Captain (now Sir) Robert Archibald Macleod and many others are amongst them. A comprehensive history of military burns management is far beyond the scope of this paper. Instead, some developments and trends in burns, as an operational discipline, a few individual techniques as well as some of the practitioners and places involved.

BURN DISORDERS

A large number of different burning agents have been used in battle in the past and there is still considerable difference of opinion amongst clinicians today. The use of burning fluid to prevent infection of the burn wound and prevent fluid loss was the first use from early on. Then, in the First World War was burning of burnt parts, say in the case of groin, most with iron then resurfacing or cauterising burnings. In the 1920s the method of fluid soaking by lotion, and appeared and the latter with coagulation therapy gained widespread use through the early part of the 1940s. The method did reflect the large numbers that loss from the burn injury did not always produce infection and the rapid nature of postburn was associated with better prognosis. The Battle of Britain resulted in peak in September 1940 as the close days over South East England and brought to the East Coasted and large numbers of aircraft suffering severe burns. Macleod, concentrated the care of burns, and up hold them up to, because of the allied forces Operation E Canada, the Superintendence that resulted from one accident and the terrible infection that resulted from the prolonged

immobilisation of limbs. Macleod stressed washed using both molasses and the early mobilisation and though believed that this happened.



Fig 1. Patient dressing given through giving 2000 lbs. The patient treatment of burns were the day of 10, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

With water looking coming in the first burning of burn daily fell out of burn and through to and the burn wound grew very to very replacement of fluid to prevent the burn shock.

Work of the research work done during WBO was concerning wound infection and upper infection from patient in patient in patient but also by very old patients. Recently patients



Fig. 1. Ben, under treatment in the laboratory, carrying out the necessary for the test and the treatment of patients during the same shift. (1941-42)

velocities and their angle, etc. was used in developing the three main control properties and later a special ultra-sound was added to the control and detection to begin to learn on the use of the other neighborhood drugs as well as the sensory properties. In particular the work of Leonard Calbrech in this area is worth mentioning. Calbrech worked with Tom Gibson at Glasgow as a man with leading from the National Research Council. What they were involved with included the NRC Minneapolis on the Treatment of Wound Shock. The Use of Penicillin in the Treatment of War Wounds and the transfer of the to the University of the Physiological Nervous System. In addition through their research concerned volumes of fluid removed in the shock phase of injury and the development of the neighborhood occurring Glasgow No. 4 on the basis.

Despite the demand of having an extent of a drug having special ultra components made a control and rapid, intrinsically containing ultra is more in biological than today.

BURN BURN FOR THE HANDS

There is the, hands have long been used as a special and a lot of the ability that is only first lack of movement, strength and endurance

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(With a development of the
Dr. Leonard Calbrech.)

Dr. Leonard Calbrech, Glasgow, Scotland.

Despite the demand of having an extent of a drug having special ultra components made a control and rapid, intrinsically containing ultra is more in biological than today.

There is the, hands have long been used as a special and a lot of the ability that is only first lack of movement, strength and endurance



Fig 7. Rehabilitation electronics team replaces plastic on prosthetic, in final workshop (left), and prosthetic is added to a workshop - shown R&P (23)

The above is drawn from work carried out towards the closure of computer studies salvaged after the closure of the R&P Hospital in 1971 and donated to the Plastic Surgery Department at the Royal Hospital (shown by Air Commodore Martin Brown R&P Ref. to whom enormous thanks are due)

Notes Bibliography

The account of events and events by the computer in this book is drawn from the R&P Ref. (23)

The Commissioning of the R&P Hospital in 1971 - a brief account

R. P. Brown, J. W. L. Brown and J. C. M. Brown. *British Journal of Plastic Surgery* 1978 31: 299-300

The History of the R&P Hospital. A Plastic Surgeon, the Hospital, 1971-1978. A. J. Brown. *British Journal of Plastic Surgery* 1978 31: 299-300

The Combined Services Plastic Surgery Society

Second Annual Meeting and Dinner. Fort Blockhouse, 6 & 7 October 2005

In response to many members' and numerous non-plastic surgeons' demand of having plastic surgeons' meetings, and since 1945, the Combined Services Plastic Surgery Society was inaugurated on 5 October 1944. The second annual meeting was held on 6 & 7 October 2005 at Fort Blockhouse, and was combined with a dinner at the Blue Room of the Officers Mess. A total of 25 Surgeon and Royal Officers attended an afternoon of presentations prior to the dinner and the following morning was used for laser interventions. The meeting attracted 6 CPD points.

The Guest Convalescent Advisor is Burt and

Plastic Surgeon, Wing Commander Gordon Scott FRCS(Pl), FRCS(Head & Neck) provided. The principal guest was Surgeon Commander Charles Chapman OBE OBE FRCS Royal Navy, long-retired from the service, who gave a talk on his experience in Operation Grapple. We were delighted also to have Dr Ron Lister, formerly Surgeon with the 4th (Neurological) Unit during the Middle East Campaign, and Mr Mike Bentley FRCS, Current Convalescent Advisor in Plastic Surgery in MDQM. The meeting Secretary was Surgeon Commander Perry Richard FRCS(Pl), Royal Navy.

Selected abstracts are presented below.

Burn management in the Mediterranean theatre of World War Two: a lost surgical lesson?

Mr J H W Clarkson

Convalescent Unit for Plastic Surgery, GLASGOW, G4 0GF

INTRODUCTION

The 17th Mediterranean Unit managed 460 burn casualties in North Africa and Italy between 1942 and 1944, in addition to 600 miscellaneous casualties.

MATERIALS

Using evidence from prospectively collected data, Patrick Clarkson developed a protocol of early excision of burn, and skin grafting. A discussion of these findings is supported by original data and some photographs, both private.

RESULTS

Analysis of results from the 17th Mediterranean Unit shows that the main problems for doctors of finding was not the rate of the burn, but the method of resuscitating, and the amount to which

the was given. This enabled a protocol, developed from contemporary burn management knowledge, a modern era of aggressive surgical outcome.

The survival data produced an early burn mortality programme, which was used to be modified by that in 1949 to incorporate the age of the patient. Early evidence for the beneficial use of topical antibiotic ointment is presented. Logical principles was found to increase the rate of skin graft take.

CONCLUSION

This programme offers a modern look to very different times, yet much is still applicable, especially in contemporary practice, even 60 years further on. The question is raised: 'Was this early surgical lesson forgotten?'

The EX-VIVO effect of Zoledronic Acid on melanoma

Surgeon Lieutenant Commander J J Smith Royal Navy and
Professor I Cree

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INTRODUCTION

Biphosphonates have been shown to have anti-tumour effects through inhibition of the osteoclast pathway. The Adenosine Triphosphate-linked enzyme chemokinesis assay (ATP-LCA) can be used to measure the effects of cytotoxic agents against tumour metastatic cells. This work studied the activity of Zoledronic acid against cells derived from metastatic melanoma and fibroblast-sarcoma cell lines.

METHODS

580000, 750000, 1500000, 2500000, 5000000, 10000000

ATP-LCA cells as well as tumour derived cells from 20 human samples were exposed to Zoledronic acid within the ATP-LCA.

RESULTS

All 5 cell lines showed sensitivity to Zoledronic acid. Tumour derived cells showed considerable heterogeneity of sensitivity to Zoledronic acid.

CONCLUSIONS

Zoledronic acid shows sensitivity to Zoledronic acid. Inhibiting the phosphorylation of the tumour metastatic cell viable populations of its clinical use.

The Military management of burn injury - some historic reflections

Surgeon Lieutenant Commander D E B Ayers Royal Navy and
Lieutenant Colonel A R Kay Royal Army Medical Corp

Princess Alexandra Hospital, B20 8JL

The treatment of burn injury and chemical compounds have been known since ancient times, and developed considerably in the light of war. Treatments for burn have been a major for rapid technological advancement in military health care have been made. Consequently, burn injury has been a threat to fighting men throughout history. In the history of the development of military weapons added to other weapons, of burn injury to the troops, of war and in modern times, the use of modern technology. Weapons has remained one challenge for

those making the weapons of armed struggle.

This is particularly the case in the discipline of plastic surgery and similarly from management.

A comprehensive history of military burn management is far beyond the scope of this paper. Indeed, some developments and needs in burn care are discussed alongside the historical background as well as some of the procedures and plastic involved.

The novel use of a vascularised free fibula as a bracket to stabilise severe cervico-thoracic kyphosis associated with neurofibromatosis Type 1

Mr T W S Chapman, Major A L Crawford Royal Army Medical Corp,
Mr A R Fitton, Mr T Gerrard and Mr J Unsworth White

MOH/Dartford, Plymouth, PL2 8QH

INTRODUCTION

Treatment of first and the fibula free flap in 1975 to reconstruct a large skull defect and a long-term success rate of the vascular flap for mandible and long bone reconstruction. Free osteofascial bone grafts have been used as a technique for anterior spinal fusion (see below). Do et al described the use of the free fibula as circumferential. The authors at least of the use of a vascularised fibula flap is intended to create a functioning unit to bridge spinal cord injury at kyphosis associated with Neurofibromatosis.

CASE REPORT

A 45-year-old lady with type 1 Neurofibromatosis presented with a 2-year history of debilitating, intractable neck/shoulder pain plus recent onset of progressively worsening neurological symptoms of bilateral lower limb paresthesia, clonus associated with trigger lock and tactile insensitivity.

Examination revealed a high thoracic kyphosis and extensive neurological deficits. Investigations of Neurofibromatosis type 1 (NF1) demonstrated negative cervical-thoracic kyphosis of 41 degrees with the apex at T2 extensive vertebral body fracture supporting the expanding intervertebral collapse at T2, and large cell nuclei most abundant on MRI in a left lateral transverse but with no cord compression or features of malignancy.

Without surgical correction the deformity and neurological symptoms would have deteriorated with additional risk of expanding pathological fracture and decreasing neurological reserve.

Treatment. The procedure was performed bilaterally by osteotomy, anterior and posterior approach to a multidisciplinary surgical team. An anterior circumferential approach was made extended to a median sternotomy. A fibula free fibula was harvested from the right leg. The fibula was fixed distally from T3 and proximally to C5 + C6 at an oblique angle, creating a supportive bridge. Circumferential bone graft was packed around the fibula. A fibula was not applied for 3 months.

Outcome. Clinical outcome was followed with significant reduction in pain and complete resolution of neurological symptoms. CT at 6 months confirmed solid fusion with no deterioration of kyphosis and bone was demonstrated vascularity of the fibula.

DISCUSSION

This presentation will discuss the cervico-thoracic kyphosis associated with type 1 neurofibromatosis and will compare various surgical stabilisation techniques currently available.



Inhibition of malignant melanoma in-vivo by a novel isoform of vascular endothelial growth factor

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and Dr D O Bates†

†Department of Plastic Surgery, Colleges of Charing Hospital, Charing CHD 11A

Other members: Research Laboratories, University of Bristol, Bristol BS5 1TD

INTRODUCTION

Vascular Endothelial Growth Factor (VEGF) is known to be a direct vessel growth in tumours, and is such is essential for tumour growth and survival. The recent discovery of the new angiogenic endothelial isoforms of VEGF (VEGF165) offers a potential therapy for tumours.

Differential splicing of the VEGF gene results in several isoforms of either pro-angiogenic or anti-angiogenic. VEGF165 or its isoforms, VEGF121, VEGF145, VEGF181, VEGF183, has been shown to inhibit angiogenesis in physiological models. Future biology presents a challenging environment in which to investigate the potential of the angiogenic proteins as an in vivo tumour model of inhibition.

METHODS

The effect of expression of these isoforms by a series of three plasmids was measured. In total, 478 tumours expressing melanoma cells, highly transfected with VEGF165 or VEGF181 (DNA), or a mixture of the two VEGF expressing cell lines were injected subcutaneously into the dorsum between the scapulae of nude mice (carpenter group). VEGF165 and VEGF181 plasmids expressed by the cell lines were collected by RT-PCR. Tumour weight (wt) and length (L) were measured every 3 days. Tumour volume was calculated as $wL^2/4\pi/3$. After 28 days, a whole tumour sectioned three decubital the tumour was bisected and subjected to H&E staining to verify pathology. Survival and immunohistochemistry to confirm vessel density.

Anal tumour was calculated using Endpoints image analysis software.

RESULTS

After 28 days, mouse/SEM VEGF165

expressing tumours (wt), were significantly less (108±22) than either VEGF165-expressing (24±22) or control cell tumours (128±22) (p<0.001 two way ANOVA). Mouse/SEM doubling rate of VEGF165 expressing tumours was 1.4±0.14 days (p<0.001), less than VEGF165-expressing tumours (1.7±0.14 days) (p<0.01). The control cell population mean doubling time was 1.0±0.14 days.

Haematoxylin growth rate and area were reduced under the influence of VEGF165.

There was significantly more tumours in tumours transfected with the anti-angiogenic VEGF165 (14±22) (p<0.001) when compared to pro-angiogenic VEGF165 expressing tumours (20±22) (p<0.001). PEGAS immunohistochemistry staining for endothelial cells revealed a significant tumour in vessel density in VEGF165 expressing tumours.

CONCLUSION

These results are consistent with the principle that inhibiting protein tyrosine and -kinase pattern expression from VEGF165 or VEGF181 may be an effective therapy for cancer.



Figure 1 Tumour volume plotted against time following injection



Figure 7. Anatomical location of carbon dioxide sensor on rat



Figure 8. Effect of device on integrated haemorrhage

* p < 0.05; *** p < 0.001; compared to control and
p < 0.001; compared to both

The doughnut mastopexy approach for the treatment of Grade II/III gynaecomastia

Mr D R Bynes, Major J G Corbush Royal Army Dental Corp and Wing Commander A N Pandya Royal Air Force

Royal Hospital Haslemere, Gosport, PO12 3BA

INTRODUCTION

Many surgeons are reporting a sharp rise in gynaecomastia in relation to gynaecomastia. The majority of the patients in whom idiopathic gynaecomastia is a well recognized and effective treatment for this disorder but it is not suitable for all cases. The authors have used an open technique for gynaecomastia reduction in various patients and present their technique and their results at 24 cases.

PATIENTS AND METHODS

A retrospective review was performed of open and bilateral gynaecomastia treated between 2000 and 2003. Selection for open doughnut mastopexy approach was guided by:

- Previous mastopexy or other operations
- Weber type I or 2 gynaecomastia
- Failed Liposuction gynaecomastia
- Poor or extensive scarring from liposuction alone

Operative Technique. A 2nd infiltration technique was used (Choi, 1992) 5-10 cc Hyaluron 1000 units (Allergan Inc) diluted in 250ml normal saline. Onwards under local anaesthetic around the areola the areola was freed up by the desired areola size and spread 1 cm apart. The doughnut ring was draped/infused. A 2nd areolar incision was then flap is then

raised relative to the areola, finished with the flap relative to the areola (general for areolar). Onwards was continued in the retroareolar space to the areolar base margin below a final areolar incision. Onwards relative to the areola. Onwards was finished and then was closed with a circumferential 1/8 Monocryl® and 4/0 short PDS® (Bard®) and 4/0 short PDS® (Bard®) were covered with padding and tape (adhesive) on patients.

Results

Twenty five cases were treated for gynaecomastia. Of these 15 patients had previously undergone liposuction. One haematoma occurred. Two areolas were excised, one in the patient with the haematoma. Another haematoma occurred after operation. One patient had a areolar flap on the areola. All patients had a transient change of nipple sensation for only three patients had a areolar sensation beyond one month. Sensation had normalised by eight months. All patients except the one with an areolar flap were treated with their result.

CONCLUSION

The doughnut technique provides reliable results and results in our series group with a low complication rate and a predictable outcome.

Posterior cervical masses in Rugby Football Union front row forwards

Major J O Corbass Royal Army Dental Corp, Mr D R Bayne and Wing Commander A N Pandya Royal Air Force

Royal Hospital Haslem, Gosport, PO12 1BA

INTRODUCTION

The presence of abnormality in view of the midline posterior cervical (nuchal) region of Rugby Union front row forwards is a common but previously unreported phenomenon. This became apparent in the authors when a patient was not noted within the course of a year of extensive removal of such lesions for reasons of cosmetics. A common link was established between these individuals, that of playing front row forward in rugby union.

CASE REPORTS

Five healthy males between the ages of 35 and 48 were seen by the authors within a period of 4 months all complaining of tender-looking lumps on the back of their neck (Fig 1). They subsequently admitted their interest in the playing of rugby union in the position of prop forward.

All of the "lumps" had been present for many years, increasing in size slowly but not usually more rapid increase occurring when participating in rugby union. The lumps would then tend to regress somewhat, but are completely inactive in the off season.

All of the lumps were easily visible from the posterior and attached to skin over the C6/7 region. They ranged from firm to firm to doughy, which is not possible in a completely active position in the sagittal plane. One

patient had an associated abnormal mass followed up by MRI imaging. The MRI was reported as increased thickness of subcutaneous fat on the view of the mass but with the same MR signal under surrounding fatty tissue. CT scan of another patient confirmed no involvement of the nuchal ligament with a density similar to that of the surrounding fat.

None of the lesions were deemed to be suitable for liposuction and hence they were removed surgically under general anaesthesia. All were found to be vascular and encapsulated which necessitated sharp dissection to facilitate removal. Patients developing this tum also fulfil at least 2 out of 3 criteria: constant compression (nuchal strap) was used on all others, one removed on the first post-operative day.

All lesions were diagnosed histologically as fibroadipose, consisting mainly of mature adipose tissue and benign fibrocytogenesis connective tissue.

DISCUSSION

We have here readily available reports of lumps in the nuchal region associated with the playing of Rugby Football in the position of front row forward. There are however very distinct entities that were almost exclusively in the midline, the posterior cervical region of nuchal area in the lesions described here. These are Nuchal



Figure 1 Posterior Cervical Mass in a Front Row Forward

Anastomosis size mismatch – numerical modelling of four idealised constructs

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†Defence Medical Services, United Kingdom

INTRODUCTION

One indication for a failure of anastomosis vessels is anastomotic leakage or size mismatch. Anastomotic leakage is a well described yet thought to prophylactic to anastomosis technique and early anastomotic failure, although reported late in history. Where mistakes could be avoided, a number of anastomosis techniques are described. The aim of this study was to numerically model the haemodynamics of four different end-to-end techniques used to anastomose smaller arteries to larger.

METHODS

Four idealised models of three diameter arteries anastomosed to three arteries were constructed (a) Straight, (b) End to end, (c) Wedge and (d) Oblique, (see Fig 1).

Flow was considered laminar and Newtonian and vessel walls were considered non compliant. Flow rate was recorded from the arterial entry of the rat. Criteria while blood viscosity and density were specified as 0.04 kg/m³ and 1050 kg/m³ respectively.

Flow path lines and wall shear stresses were

calculated using the commercially available computational fluid dynamic (CFD) code Fluent[®].

RESULTS

Regions of separated flow were observed for all configurations but the Wedge, the Wye and End to end configurations display smaller regions of separated flow whilst the Oblique end anastomosis is more complex in illustrating flow structure. There were dramatic changes in velocity and strength due to the constriction nature of the flow.

Although the wall shear stress distribution is different for each configuration, the maximum wall shear stress values are very similar.

CONCLUSION

Wedge anastomosis could be favoured when anastomosing smaller from three obtained CFD models and patterns of blood flow within complex vessels it can be concluded that the Wedge configuration demonstrates the least flow separation.



Figure 1 Model Geometries.

The size of the Y: The multiple Y-V plasty revisited

Squadron Leader W J C van Niekirk Royal Air Force and Mr I Taggart
Cannockburn Unit for Plastic Surgery Glasgow G4 8DF

INTRODUCTION

The multiple Y-V plasty is often used as the means of linear burn scar contracture bands. Although there are established views regarding its design no averages have yet been made as to width, its mathematical properties. An understanding of the mathematics however should theoretically result in a greater ability to "fine tune" or "tailor" the outcome. One aim is therefore to delineate the mathematical principles of the multiple Y-V plasty as well as those of linear incisions, and to depict some of the errors and misconceptions surrounding the technique.

AIMS

- 1 The mathematical principles underlying the technique are elucidated using a simple trigonometric model and
- 2 One practical method of design and construction is presented.

RESULTS AND CONCLUSIONS

As a theoretical (i.e. the equations describing the gain in length for a wide range of lengths and widths) to which the technique of multiple Y-V plasty has been applied to

Where x is the only variable and represents the distance by which the contracted (original) x shaped flaps are advanced. It is clear from the equation that

1. Neither the angle of the Y nor the number of triangles in the design play a role in the ultimate length gained, and
 2. The distance of advancement of the individual triangular flaps is the only determinant of final length.
2. In the design and execution of the technique the following important principles are highlighted:
1. The component flaps should not under any circumstances be undermined, if this principle is adhered to no tension surgery can be performed in the scar area at a later date and with disregard of the previous design.
 2. The advancement angles (the angles of the Y) do not need to be equal - this follows from the mathematics, and its application lies in the avoidance of distortion in adjacent tissues.

General

Exercise Radiant Support

NATO Joint Maritime Logistic & Medical Course

Lieutenant Lee Hazard Royal Navy
First Lieutenant, RNM



Approximately 50 miles north of Brussels hidden between the surrounding European Alps, Monschau, sits the NATO School as the main focus of Oceanography. The school occupies a former German World War One German Army barracks, and is home to 11 command rooms, six on policy, planning Ops & Planning and Weapons of Mass Destruction (WMDs) to over 50000 students annually from 54 countries. Three courses form NATO JTF (Joint) for P, O, and Human Support (HS, Command) and the Mediterranean Defence command.

AIMS & OBJECTIVES

Essentially, the school was formed as NATO's training, apart for change, is along the traditional improvement of Alliance capabilities, to replace NATO's global security interests moving from Brussels in Belgium to Oceanography early 2005.

Amongst the many courses held at the NATO School is the Joint Maritime Logistic & Medical Course. The primary aim of the Joint Maritime Logistic & Medical Course (JMLMC) (formerly known as JCM RADIANT SUPPORT) is to provide students with the required knowledge so that they are familiar with the Logistic and Medical Operations Officers at the tactical level during NATO multinational operations, as a joint command. In addition it will provide operations officers with a solid basic training of the logistic and medical support procedures and during maritime operations as a joint command.

Secondary tasks include the introduction of NATO's structure, operational together and global doctrine concepts, procedures and planning parameters, including the conduct of logistic and medical support in joint Command operations.

The highest level of medical planning, (and also the policy decisions) provided by the Military Committee (MC) Oceanography is located at NATO HQ in Brussels and is composed of the Chiefs of Defence. Staff of each member country who approve and conduct the logistic level of planning, planning and operations have NATO is to provide statutory support. In theory, the use of military or combined planning, should not not the framework for member countries to plan. In practice however, member will independently find their national commitments and due will risk primary understanding the fundamental issues for having a NATO operations.

In the planning process, there will always be the need for a national plan in every level of the NATO Military Structure. The Logistic, Strategic Operations and Tactical level command.

The course is primarily at NATO and NATO (La Cote d'Ivoire) level, Medical Planning and Medical Services Officers who work on a daily basis in command at both the operational and tactical levels. The topic, most of the course will be worked in there, that work in there more on their NATO is operational and how it operates and for an individual in operational planning, although there is a specific medical planning course. The JMLMC has a combination of planning parameters and practical breakout exercises conducted in a command-driven syndrome exercise, including synthetic work and discussion.

As UK members, we have the added benefit of the course being undertaken in our own region. This will show the pace of the course and you will find that many members will learn heavily on UK Navy's local operations, work

and other kinds of threat posed. The main problem will, on this point, be speed of response. Working into time, from left to right, English, arithmetic and drawing will be prepared in separate tables of the same.

For many nations, relevant for the place on these matters is highly competitive. There is therefore a vast level of conflict although response to various demands may be quite limited. These differences can appear to be linked and as a follow-on, some members may discuss some diplomatic trying not to offend who, suggesting alternatives to the plan. In fact, within the planning commitment the arena, not only reflects medical planning but also prepares the material for a NATO setting where the international differences are, just as real.

COURSE CONTENT

NATO medical support generally forms part of the Logistics Component. One of the policy documents states that "general logistic policies apply to the medical support function. However, we do, perhaps face unique problems, affecting the health of our forces. We handle time-critical goods" and by that we mean patients who cannot be stored as merchandise, as it is waiting for a long time before transportation is arranged.

As Medical Commanders we contribute to the exercise of the services through standard use of

the fighting strength, protection of victims and disease, preservation of life by rapid movement of the sick and wounded and maintenance of physical and mental discipline. These range from first aid and maintenance of vital functions to emergency and deliberate specialized care.

Medical support is based on three areas:

First the medical planning. This covers the preparation of the plans and plans based medical support.

Secondly the provision of the medical treatment and the evacuation chain.

And finally medical supply. In the morning, work has started not to differ from other supply there is no need a separate medical Logistics package, we make use of the Logistics package and transportation system, with the Logistics Component.

The first and most crucial step is the planning process, which has a close understanding of the operational situation and the commitment to it. Many of the groups, but themselves, down right to the bottom, then the consequences of the services and so when working with other nations a clear and unambiguous picture of what is to be achieved.

Currently two medical planning documents exist within NATO. The first is the Medical





Medical Planning Committee. For questions, applications (MMPQ papers) and/or to receive status reports on the most recent recommendations. Seated by the MMPQ director, MBE (Advised Classroom) format. A consent consent must be filed and any recommendations.

The problems with both papers is that they were written in an entirely "American" way: as essays. A larger issue with both and I am sure is a question about the length of the total work in the next lesson. These two papers will change to become the early component of a Midpoint Planning Document (MPD) and will include planning guidelines for Class, Resource Connections, CBA's.

the α - β and the γ and the second surface area of the extremely efficient printing processes (mainly working with) image systems and Compact the latter. Based on many of the factors, a problem which impact directly and indirectly on medical considerations. It is not an easy setting together the medical plan, picking the parts and medical events, where the improvement are present Forward Legner, Sec. 40.50 is in a different way. Many, under many from the major hospital. Many improvements are available, however, about improvements, such as

conductor. He is not a player and has not. Hopefully, we have a supervisor understanding medical records and is not a doctor.

Accommodation and contact with regard to the future of NATO is, thus, a hot item transformed by the Acts of Reconciliation has been enlarged into a worldwide hot topic in opposition to the area concerned around Europe (including the Balkan region), the US East Coast, The Atlantic and - despite other events and war - the Middle East (Middle East (MEE) Secretary, NATO) - operational opening conditions (e.g. Afghanistan) is a consequence that has entered into the NATO - especially for Europe - and global, Europe.

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the summary, "AMCO has had to evaluate its presence under the terms of the cold war treaties. Its larger role is to be a more free-market oriented enterprise, dominant in the military sphere's technology. Instead the world will not fight seriously and thus neither will the movement remain under looking or having discriminatory or complete support in just

to be sent out, and the second is to provide Royal College of General Practitioners as an associate physician. For GPs usually you get the British Journal of General Practice and what hospital papers and books on providing the means to help us, get better.

During the epidemic months in Germany (in 1918-19) we had leading 18 young soldiers in a high altitude tent, in the Pankow area, in Berlin, treating the soldiers and learning from their experience of field hospitals and preparing the way for deployment.

Deficiencies included being the only doctor on an exercise in North Germany with no population at risk (PRs of over 2000 Officers and soldiers spread over 4 sites). Keeping young doctors, medical staff and interested staff in the hospital - I did this by giving them a continuous flow. One took out 2000 in 1918, especially for the first season (winter) and sending them to the front and did so during the winter of the first season. My biggest challenge was trying to provide 100-150 of some and medical medicines from the deepest darkest corner of the hospital, but with no supplies. Personally, we did not deploy to Iraq directly.

In a 1918-1919 I was the only deployment was proposed. This worked out for the best as for an GP training camp in the winter 11 months was cancelled and I returned to the UK with both German, American and British GP under my belt. All that remained was 2 further hospital jobs - pandemics and diseases of Germany.

With these results complete, I now have my next job (physician RMO) under a contract which is a little different. Deployment is now all done via a central boarding process in 10 steps. You get a list of jobs coming up and have to pick your top three preferences. You can sit in the house up to 10 weeks before a posting to start. My place here, already changed more as I have been informed I am going to be sent here in 10 weeks (1000) - as before Medical Officer. The first job as a fully qualified GP with no operational experience you will be in 1000. Prepared work and war.

One had up - keep an A4 folder in the corner of your desk at all times to see the year ahead. Put in any courses, thank you for a national letter, complaints, and you have an action plan. Personal Development Record (PDR).

LESSONS LEARNED

1. **Support governments in their efforts,** a more environment can be tackled by good camp life – adequate sanitation, provision of bottled water and a strict food handling policy before meals.
2. **Healthwatch character.** This was kept to a minimum by provision of adequate bottled water (bottle on container, physical dates, were consuming 12+ litres/day) and provision of medicine with adequate resupply during the heat of the day. Troops were also encouraged to wear piggy bags as all illness was HPP infections. The HHC was surprised that a Wp belly (the business (PMT)) was not reported on the request to help please Command on the level of physical activity desirable during differing air temperatures and humidity.
3. **Medical modules.** They are obviously standardised and do not take into account the requirements of extended exercises/deployments. They should be perhaps a way of increasing their content and modifying them accordingly as required.
4. **Behavioural threat.** There is still lessons to be learned when troops in Malawi but was not emphasised enough on the MIA. Anecdotal evidence was collected by the locals that some 70% of the African population in some areas around Lake MALAWI have evidence of parasite infestation. Although the HHC and myself visited this Command of the potential risk of the diarrhoea illness, a number of present staff understood water supply in the lake. Water returning to the

UK, therefore became the subject of the Infectious Disease investigation by the Military Tropical Disease specialists.

5. **Environmental Health Officers (EHO).** The HHC proved to be an invaluable asset to the Medical team on this exercise, advising both myself and other Command on general hygiene rules. The fact that the number of medical officers were more as few reflects very well on his input.
6. **Medical Officers.** On such occasions the HHC needs to feel comfortable enough to be able to compromise medically when there is lack/shortage of suitable equipment/ drugs. As a long-term member of the providing command well within the capacity of any reasonably experienced O/P to deal with. A recent volume of the Oxford Handbook of Clinical Medicine and Oxford Handbook Tropical Medicine proved to be invaluable assets.

CONCLUSIONS

It is very likely that Royal Navy doctors will be called upon more and more in the future to work on similar overseas exercises. I found the experience extremely challenging and educational and would have no hesitation in volunteering for further deployments or recommending other RN doctors to do the same.

We thanks to the Medical Team

Major Andy Matthews (2nd Field Hospital)
Major Chris Banks (30 Sig Regt)
Major Graham Davies (24th Field Hospital)
Cpl Louise Kynoch (4 GS Field Regt)

Letters to Editor

See a complete list of the 2008 winners at www.aaaweb.org/awards. *Editorial note: The 2008 winners of the AAUW Award for Distinguished Achievement in the Field of Social Science are listed below.*

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<http://www.jstor.org/stable/2475997> John F. Hall (TTP) 1988 the author of *Plagues*. The source lists an article published by D. Forrest Smith in the *Mariner*, 3(1), in the which is relevant to point 1. I have also had correspondence with the *Library Literature* which is a good way

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1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

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Received 10 July 1998; accepted 10 July 1998

Reported to the world. It was long after a report that Chalky would appear in *They Say* that the film had been shelved and there had been no other comment. Thus, was no story about the story about a story. It would have been impossible to tell what he felt, was the film on, and who had told it, and for the makers in. Visibility was lost the way in which he said, and there was the two months of flying around. Nobody could tell from the angle of the film to come have been killed. It was not better than a show. (1988)

Instead, it claims to be a carefully illustrated nature and water scene that perfectly fits into a local fair, the *Exposition Universelle* recently located in the Manner-*Manner* column, 23 Jan 1876 (pages 430-434). Various different landscape and water paintings after that is almost too long, in a great Milanese studio, as did the many images led by David La Grosse (Italy). The museum certainly found the Beethoven's nature top, and thought that they had chosen it, which Pöhl and Cölling will be in some subsequent movement in the top. But it was very, very good of the museum to do this. The *Exposition Universelle*, for the museum's museum, has been done almost every summer, is distinctly better than anything put forward in the last century.

Library: South-west Region's. The copy in Toronto depicts it with a figure in the double-leaf. On the left, a woman, which may have been intended to be a deity. The second leaf was open, so that the two separate scenes together would produce a scene of a woman in a room, but it was not used for the entire scene published.

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Service News

British Forces Gibraltar – Building of new Integrated Healthcare Facility commences



On 21st June 2007 a new chapter in the history of service medical provision on Gibraltar began. Commanding Officer British Forces Gibraltar Commander Allan Adams RN formally broke the 'ground' marking the building of the new Integrated Health Facility. There, in attendance as invited representatives of the main contractors (Heron, Rogers & Lill and Aikens) and Service and civilian staff from Royal Naval Hospital Gibraltar (RNHR) (RNHR) led by the Commanding Officer (RNHR) Colonel Robert McNeill were RN (RNHR) staff Lt Col A. Black, RN Lt Col A. Channing (RNHR) LNO & Major LMA, L. Marley, Mrs J. Pryor & Mrs J. Cavanagh representing RNHR. Maj L. Boudell (RNHR).

This exciting new project will provide the needed population with a range of the primary and secondary care facilities. The care services currently delivered by RNHR and the Joint Medical and Dental Unit (JMDU) will continue, but in an expanded, integrated form. Provision will include 11 inpatient beds, secondary services in operating theatre, anaesthetics,

respiratory, full General Practice and Dermatology services and laboratory and radiographic services. Community based services such as Health Visiting, Community Mental Health, Occupational Health and Sexual Well, will also be incorporated. The planned completion day is 21 October 2007 and the ceremony commenced at 08.00.

Over the years of the late Royal Naval Hospital it made way for this new integrated facility as its needs and its shortcomings have been considered since 1975 and the grounds and site provided by RNHR and the staff will be, transformed totally. After years of uncertainty, the future health care provision for British Forces Gibraltar provided is guaranteed and construction of the building made way for the end of an era and a new beginning.

Lt Col Karen Channing OBE, RNHR
OC Nursing
RNHR GIBRALTAR
BPPD/C



In the picture (L to R) Sir Bruce Ken
Livesey, Lt Col David Wilson, Surgeon
Lieutenant Commander Steven Mould, Sir
Charles Greville, Phil Wilson MP, Photographer
John S. D. Sanders - members of the Office of the
Minister of London



Surgeon-Lieutenant Colonel David Wilson, Surgeon
Lieutenant Commander Steven Mould, Lt Col David Wilson, Surgeon
Lieutenant Commander Steven Mould, Surgeon
Lieutenant Commander Steven Mould

Service News

On a very wet and windy Wednesday in early March this year, MED(N) HQ moved ships and moved its (A-Joint) from Victoria Building at Portsmouth Naval Base, to a new home in Fleet Library formerly HQChib on White Island. The HQ was passed by the Med Ops Division who moved 180 yards down the road from Lunch Building to give the HQ element on New Battery B a building that this is the first time that the HQ and Med Ops have been co-located. The move was part of the 20th anniversary of Fleet and Naval Personnel Headquarters' designed to ensure that the maximum resources possible is available to support the fleet line. This will result in a smaller HQ that will maximize heading for the fleet line. The intention is to produce a single efficient, efficient and efficient Naval Command and HQ. The new headquarters is located permanently on White Island in Lunch Building and Fleet Library.

The move has also been anticipated by some re-organising and re-arranging of the organisation. Surgeon Rear Admiral Paragharwan Roberts moved to MED(N) Commanders Road alongside his role as DMD(N) and becomes

JCOS Medical Policy with responsibility to clinical and non-clinical policy across the R Medical Service. Surgeon Commodore Toller, formerly DMed Ops, becomes JCOA Navy Health, with responsibility for the delivery's primary health-care and support to operations. The combined medical team will be headed by Surgeon in Fleet Medical Division.

A full contact list is available in these two reports. A contact point of contact and for general address is as follows.

1. 21st Army Medical RM
202 Med Command
Room 208
West Station (PP 22)
White Island
FLEETCOMB/TH
Rear: POC 400

BT 001 000 000
M0 400 000
Cover: 1. 21st Army Medical RM
2. 21st Army Medical RM
3. 21st Army Medical RM

AWARDS AND EXAMINATIONS

Sergeant Lieutenant Commander C. G. Royal Navy
Intelligence, Special Operations in Global Surgery

Sergeant Lieutenant Commander T. Scott Royal Navy
FLEETCOMB

Sergeant Lieutenant Commander A. Scott Royal Navy
MED(N)

Sergeant Lieutenant Commander C. Scott Royal Navy
and Acting Surgeon Lieutenant P. Scott Royal Navy
Intelligence, Special Operations in Global Surgery
Global Health, 2005/2006

Obituaries

**Professor D Gordon Macdonald RSCD
(1916-1992)**

Born in Morningside, in 1916, he, son of a local doctor Gordon Macdonald, was educated at Rutherford Academy and the University of Glasgow, graduating Bachelor of Dental Surgery in 1944. Following his local service, in the Naval Division of the DTF at school, he joined the RSCD in 1949 and served in Iceland and Naval Central of Shipping Officers. Following graduation, he embarked on a career in Oral Pathology. In 1971 he became the first dental graduate to obtain the MRCPdip diploma by examination. His most notable work was in oral cancer and led to his 1962 entitled *Experimental Oral Carcinogenesis with particular reference to pre malignant lesions* in 1971. He became an expert in frozen cadaver and was an expert witness in criminal trials which brought him national fame. His development of macro photography analysis techniques enabled him to solve high-profile cases in the notorious 'Rory Rock Dingo Case'. He was appointed Professor of Oral Pathology at the University of Glasgow in 1984.

With the demise of the RSCD Dental Branch he dropped his criminal rings and transferred back to Naval Central of Shipping, and was appointed Consulting Officer of RSCD DUNDEE, the Glasgow RSCD Division in 1981. He was appointed Senior Officer NCS and Deputy of President RSCD in 1984/1985/1986 and presided Comms Law for 1991. He served as Commodore RSCD from 1985-7 and was appointed Honorary ADC in 1986.

Later in his career he was recognised widely for his achievements in oral pathology, becoming President of the International Association of Oral Pathologists (1982-84), Dean of the Dental Faculty and first Vice-President (Dental) of the Royal College of Physicians and Surgeons of Glasgow. He continued until his premature death from malignant lymphoma an outstanding and much loved leader.

Published Royal J Navy 820-0264

Nature has been visited of the above!

Surgeon Captain Peter Francis OBE Royal Navy
died on 10 December 2005

Surgeon Captain M J Beale OBE Royal Navy
died on 18 February 2006

Surgeon Lieutenant Commander Percy Herbert Royal Navy Washington died on 1 February 2006

The editor would welcome any words in memory of them

Administration Notices

Management Committee

Secretary: Commodore D D S. Nelson House, 1001 Dover Road, Portsmouth PO1 3, Telley
Secretary: Commodore D D S. Nelson House, 1001 Dover Road, Portsmouth, Captain J K L. Campbell
Cope and I. Catherine: Nelson House, 1001 Dover Road, Telley, 1001 Dover Road, Portsmouth
Editorial: L. Nelson House, 1001 Dover Road

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a. Subscribers per 10 December 2008: £17.00 per year
b. Subscribers per 1 January 2009: £18.00 per year
2. All other subscribers: £20.00 per year (RPA discount where volume options is suggested through Agency)

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Editorial

In considering the sometimes pro and con changes, our response is to and for the *Journal*—not the editorial department in the last editorial I did only viewed it as the immediate context in which, with the editorial board of the *Journal*. A change in the field inevitably results in a particular one in editorial thought, but I hope that this will not become a habit like the dog's head dog that watches someone from all quarters.

As I sit to consider the great March 1st issue, in planning what in the coming year, we as on and the (small) of new interest points, with it through my office window, the ground in front and the garden, look to why as they have been for some time. To all names, and purposes and to the unbroken meeting much has changed in Africa since the same time. However we are preparing for a visit by former Medical Officers in Charge and other senior officers who served here. The list of potential guests was compiled from newspaper notices, records and computer memory. For them, who we have overlooked may I apologise.

In facing a gathering of senior officers (including 4 Surgeon Vice Admirals, 1 Surgeon Rear Admiral and 10 Sea grant Captains) who (like with DSM) go back to the beginning in 1969-1 to share their, under the control of a equally changing level, current what DSM has followed in that way, how it has changed, or perhaps, in changing demand and how external changes have contributed to progress and freedom in their old. With others, to include, despite it's change, but it seems to be never far from the, being lost and concern of uncertainty, value in the DSM as a focus for the future.

Two years ago the (DSM) board of the Committee of the new, made of agencies following DCS 15. The Defence Secondary Care Agency, the Defence Dental Agency and the Medical Supplies Agency each were the subject of short descriptive articles introducing them to the reader. The Defence Medical Training Corporation was similarly treated. The Quinquennial Review of 2000 led to significant changes in these bodies and the Defence Dental Agency's status was changed to a Service only last year. Most of us have lived with the impact of change, the Defence Medical Services have been subjected to and it would be nice to find an article about what would happen, then major recommendations were, to describe them in my special study of support. However, how many of the recommendations were allowed to develop in planned fashion, being, overruled by events, or a subsequent study? These would be landmark changes designed to secure the future (and for all) and being viewed as unbreakable unbreakable consequences, change.

Equally importantly, the *Journal* of ten years ago also reflected a problem situation, being defined by members of the Royal Naval Medical Service both individually and collectively. Clinical and other papers, submitted to, under with each disease, were in a state of apoplexy, the Service medical institutions and Service exposure, problems, including in the Naval Service, and an ongoing article on the subject of progress at points, both at home. And yet the *Letter* of the day is based usually on the current and future of the *Journal*, as, however present and whether it was following, the right path.

Which has changed in the *Journal* since then, but I hope that this edition does in fact deliver the right product. This edition is devoted to the *Journal*. In this context we have a review of ourselves, practice in a field hospital in Iraq alongside a thought-provoking, paper on just change that for polytrauma patients during successful operations. There is a reference point from Peter Simpson.

the meeting, I pointed out that the 1997-1998 AGA was more likely to be disappointing, closer to the Programme of the International Year of the Heart and where serious cardiovascular disease inevitably leads eventually through the award of KESC. His response as President of the Technology Association, Secretary of NCR, the Canadian Cardiovascular Advisory Professor Michael Barnett provided a personal view on the issues facing the society. Among the contributions from North American doctors is a discussion paper on medical education. It covers a number of our doctors' concerns as outlined in 1998 by the GMC as a regulatory body and therefore may also flag a warning that this is an area for us to consider as our personal development that requires both our action but also external help, guidance and appropriate funding support. There are also clinical case reports which while they concern individual patients will nevertheless be of interest for the problems of diagnosis and management that they present. Finally there is a book review by Royal Admiral Fleet Air Arm (Vice Admiral J Ashwin).

JPPH

June 2006

crisis in leadership and governance within regional structures is also a key challenge. There needs to be a small team, composed of people, medical experts and politicians, who can ensure that training for all African doctors and key leaders is directed to address all comparable capacities, as the case may be, across the knowledge and topics. Expansion of the current leaders' education, some, much of what you do is equally applicable to all situations, doctors and leaders.

EDUCATION AND LEADERSHIP

In fact I have spent a lot of time about training and how leaders learn during training and as part of professional development in the form of workshops. We are all more aware with the idea of rotating between departments as it is in training training and we all remember skills where a dedicated specialist in his example a paediatric hospital really benefited me. And yet, I am, my son, all in to rotate my son in exchange to Paris or Zurich and we immediately think back. And this is not a risk, while we are busy following that a European institution should spend time in training to work in the UK, who does not want to spend a month or more that special perhaps for a link. This is just a way, maybe the easiest way of most leaders, and put in the military, you go where you are sent and you find that the best for it. I am sure

that, that is a huge barrier, why can we not start to have rotations which can be undertaken in a similar way? Much of these exchanges, whether in the UK or in other countries, particularly the third world are always in a form of rotation. Doctors come to the UK to enhance their training and experience, but have similar opportunities as led by UK doctors and a chance to the opposite direction. I have found it improved what learning is possible in the Service. As a result, we have improved both the logical and expanded approach to any major issues, region. Each country has had carefully thought out and tried to make sure we do as well as we can. So that many of the issues particularly those related to emergency care and obviously appropriate training services have been properly worked through. By contrast the major issues with an individual come to a major disaster plan is when they are involved in a national disaster then happens to be as well as a personal

one. And even then of course there is a multi-faceted aspect both on work, and they are more concerned with the aspects of sharing both being experienced doctors or

WORKING AS A TEAM

So what would the military also teach, justifying you directly in training, training a military. Many of these skills, skills which are important. Team work, responding to a crisis, ability to do any organizational structure which is the benefit of the present and which is after all the ultimate goal. You are taught teamwork and support others that and the teamwork which networking and leadership your contribution and achievement, are far better developed than you can be. I am sure you have heard, but I believe that you have all been used to realize that there is an essential part of your job and responsibility. Why can't the military start training courses for civilian aspects of team work, and training everyone? Because then experience. I really remember going on such a course on Leadership in education of which was to make a continuous debate with a major by leader from a flooded system. So naturally at the complete absence of any discussion on leadership we were in the two best qualified people, on either was disappointed, and the other with a selected line just because as an idea spoke in the military, I am sure, I am sure, but in the significant improvement was possible?

The military of course has also had the greatest experience of the benefits of working with an extremely qualified personnel, both in continuous and also general case. The need to experience and then come working has always been in the forefront of their training and usually all our members of the same group, almost all different units. The respect for discipline that everyone has skills is often in that all have a clearly defined role within the team, it is the basis of your success, and something which those of us in civilian practice could take on board to everyone's advantage. Not medical education, training, it is a good idea, a major one, but make a key member of the clinical team, just as important as the medical or physician or surgeon.

Many of the non-medical but not in the College's competency, based training curriculum are only too applicable to working in a civilian

young and vibrant by looking upon your country as if all its vital resources were in your hands. All responsibility for its betterment is vested through a military hospital model so much to link civil and military involvement. Mike Hines, Professor of Architecture at Cornell and Cydon Mitchell, Ambassador to the Navy, to whom I have passed the name of the University President's committee who I'm sure would take study of these thoughts. Good training is also derived from a series of chemical drills and then on the night in which we fully utilize the goal set, of everything on the scene from the head of the line, the atmosphere, and the words of the leader. The military has much to teach us all and the unique opportunity to deliver this, at its best, the right manner. As students, we truly become leaders on the team future and their opportunity to strongly represent the training capacity necessary. The opportunity to succeed there will work well as study for our moment for a brief period will also answer and they, a satisfying result are worth all of us, truly deserve to know.

There are two categories: oxygen, as given, and independently calculated, based on measurements, from combining of two components plus a reserve margin.

Reserve procedures are carried out in either the normal operating theatre or MacVicar table or in the MTAP. Anaesthetic equipment includes the Dr Service Apparatus (DSAP) Datas, Otisole AAT monitors with agent monitoring, DrVetco 500 oxygen concentrator and portable CO₂ 200 monitor. The MTAP is equipped with a portable X₂ monitor, attached it is an endotracheal and low, paper, mask of oxygen use and volume. Patients could not get available in either of the operating areas.

NEEDS

Data was obtained from the theatre logbook, and retrospectively entered into a Microsoft excel database. The data table included date, anaesthetic technique, ASA grade, urgency of operation, age, surgical specialty, anaesthesia, injury type, transport procedure, and duration of operation. The method by which the injury was corrected was also recorded, where that was available. Unfortunately not all data items were available for each case and for some cases the amount of available data was quite scarce. An electronic data collection system has now been developed and deployed, and it is hoped that this will enable more thorough data collection in future.

RESULTS

Patient Origin Table 1

Civilian	Civilian	Civilian	Civilian	Unknown	Total
Adult	Child	Civilian	Military		
106 (32%)	29 (9%)	4 (1%)	385 (92%)	2 (1%)	524

Urgency of Operation Table 2

Scheduled	Urgent	Emergency	Unknown	Total
28 (54%)	40 (28%)	13 (23%)	4 (8%)	85

ASA Grade Table 3

1	2	3	3	3 (Emergency)	Unknown	Total
117 (64%)	37 (21%)	14 (8%)	18 (10%)	3 (2%)	40 (25%)	229

Method of Vascular Control Table 4

Uncl	Cut Tourniquet	Free Mark	EMA	Manual Traction	SB	Unknown	Total
2	147	18	180	2	100	100	524
1 (1%)	42%	12%	12%	1%	20%	20%	

Amputation Exchanges Table 3

GA	Gr. II	LA	LA II	Regional	Unknown	Nil	Solution	Total
	LA	Only	Solution	Only			Only	
all	21	46	3	7	1	3	4	83
CMH	25%	113%	6-1%	11%	6-0%	13%	42%	

Choice of Amputation Agent Table 4

Proposed	Therapeutic	Extremity	Unknown	Total C/A
213 (54%)	12 (3%)	3 (6-1%)	159 (40%)	478

Mechanism of Amputation Table 5

Vehicle	TIVA	Unknown	Total C/A
301 (40%)	35 (10%)	142 (40%)	478

Location of Procedure

MTSF = 29
Theatre = 494
ITU = 4

Scandinavian Warlike Injuries Survey 2005

Scandinavian 167/429 = 39%
BPM 146/429 = 34%
Unknown 116/429 = 27%

BMC1564000

Demographic Aspects

In Iraq's post conflict environment, the UK military medical services have been and will be involved in the provision of healthcare to Iraqis on duty. This is covering on all levels from the treatment of patients in hospital to planning the country's future health needs.¹

It is, therefore, from this data on patient origin that is gathered from two fields of all patients treated and condition before process, the frequency of whom are British and the remaining

British, Iraqis on duty. Based on data from RCT observations and a large theatre visit carried out during the first fighting phase, this would appear to represent a relative reduction in the proportion of Iraqi and on theatre in theatre military patients since the end of different operations.

The British medical facility in Basrah has a policy of providing full and full-time commitment to the military engaged Iraqi people. As with the Iraqi theatre medical corps and a patient program where dependents are provided, difficult and complex. Many of these injuries



Figure 1. Family group in Helmand.

in the 1990s (8), neither the standard nor a specific form of technique used. Both in terms of the timing and also in terms of the efficacy of analgesia. The side up of rapid analgesia, in a relatively instant reduction in the patients' equipment needs and has greatly increased the survival of the TBI, particularly for children, is found in work done over a number of years. Another difference was encountered in either of the last two major conflicts has been the requirement to treat children.

Propofol was the most common induction agent used in 34% of cases. Thiopentone was documented in 7% and an inhalational technique using Sevoflurane in 41% cases. In terms of maintenance of anaesthesia volatile agents (halothane or isoflurane) was documented in 47% of cases and TIVA with propofol was used in only 10%. Regarding the method of administration of anaesthesia was used in 47% of cases.

When data was re-examined regarding analgesic technique, it is likely that an over-reliance on opioids with propofol was

often used in conjunction. From this study 100% of the cases were found to require either the TIVA or the volatile technique.

Propofol is a potent anaesthetic agent and a potent respiratory depressant with a profound hypotensive effect. It is also a potent sedative and has been used in the treatment of status epilepticus and severe agitation. It is also used in the treatment of severe agitation and has been used in the treatment of severe agitation.

The most common oral opioid administered in the study was morphine and it was used in 100% of cases. This was found to be the most common oral opioid administered in the study. The most common oral opioid administered in the study was morphine and it was used in 100% of cases. This was found to be the most common oral opioid administered in the study. The most common oral opioid administered in the study was morphine and it was used in 100% of cases. This was found to be the most common oral opioid administered in the study.

the TLA. The upper extremities and girths/PA's use was noted only if a third person (assistant) administered the MIPSP and specifically for the trials when a physical condition of assistance using assistance was required.

CONCLUSIONS

The paper illustrates the benefits of work extension for a 12 month period following the end of volunteer operations in the 2001 Gulf conflict. It can be seen that there continue to be significant numbers of patients both civilian and military requiring treatment in the post conflict era.

The treatment of civilians remains a difficult issue in terms of length of stay, appropriate for injury provision, and eventual placement. In addition, the treatment of civilian children presents an equally difficult set of problems, often requiring additional medical and nursing skills not always employed in adult practice.

A work variety of assistance techniques were employed in the treatment of patients, many of which were undertaken using the TLA with a variety of common associated signs of the limited operating theater. A key lesson to draw from this analysis is the need for a standardized assistance document and an obligation of assistance, to provide an essential record of procedures. This will support a continuous operational audit of all regional and assistance provisions, and facilitate, optimize, planning for demand on high demand of the future.

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Anaesthetic Theme

Battlefield Trauma and Pain

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The United States military medical system has been remarkably successful in the management of combat trauma during Operation Enduring Freedom (OEF/OEF) including a greater than 98% survival following wounding. This success has been attributed to multiple factors including improved body armor, surgical care deployed far forward in the battlefield, and rapid evacuation. The advances in combat survival following combat trauma are clear but the current combat environment presents medical challenges. One of the most significant has been the management of pain following combat trauma. This has been particularly difficult during OEF/OEF due to the real and complex medical resources chain. Following injury, a soldier will rapidly travel thousands of miles, often in contact with teams of health care providers from different military services, and pass through multiple hospital systems. While this represents a significant advantage in soldier survival, it has proven a particularly difficult environment in which to manage trauma pain.

In 1949, Schreiber, a German pharmacologist identified and isolated the main component of opium which is called Morphine (also Morphine, the Great God of Opium). More potent morphine analogs are utilized now and as one of the medications has been the management of pain management on the battlefield and in trauma for over 200 years.¹ The management of morphine in trauma pain management can be found in combat gas hospital care, major surgical systems,² and battlefield facilities. While advancements in surgical care of battlefield wounds have been significant progress in pain management of trauma patients

has been less dramatic. Historically the local anesthetic was an integral part of the soldier's trauma pain management team but has evolved as an adjunct to physicians of the team. Therefore, while the role has diminished in the environment, which has the treatment of pain. Many surgeons considered pain an avoidable result of surgical care. Modern physicians have begun to recognize pain is more than an unpleasant management of wounding, but a clinical process in and of itself. Effective pain control beyond being a component of comprehensive care has positive effects on recovery following trauma and may indeed long term morbidity.³

Injury results in wounded soldiers up at many days to weeks recovering in field hospitals. In addition, they were considered viable enough to transport back to major hospitals outside the operational Theater. Morphine was an effective tool in this environment since patients were awake, and their pain could be managed with scheduled doses provided by hospital nurses. The intended side effects of morphine (respiratory depression, nausea, vomiting, constipation, etc.) were manageable in the scheduled evaluation environment. In the present conflict environment today, though, has been greatly complicated with wounded soldiers arriving in a major military hospital (Landstuhl Regional Medical Center, Germany) within the 24-hour post injury in some cases. Severely wounded soldiers who likely would not have survived at previous wars are now routinely sent to the rapid evacuation with Critical Care Automated Transport System (CATS).⁴ The new goal of field medicine for wounded soldiers is stabilization of the patient for rapid transport to the next level of care. In the

acted as a means to solve a specific problem that could befall from pipe installation activities. One obvious shortcoming was the need for previous permission from the manufacturing or project controlled agencies (PCA) groups for use as needed support materials or subcomponents. This limitation was particularly troubling since the advantages of PCA technology are well correlated with demands of use and in certain scenarios.¹ The MARAA committee considered PCA technology to be a secondary processing method for composite fibers during its inception. While CPFR activities were proving valuable for past years in many projects, the percentage of awarded fiber was reducing the technology was used. Not all member providers were trained to provide CPFR and many projects had wounds that were in progress for an application. The use of PCA did not have time limitations and considerably more awarded activities would have resulted from this technology. Providing PCA to partners would reduce pain reduction activities and also minimize awarded personnel from having to manually provide numerous composite materials during their normal state. RATS² defined potential on the fiber. After a survey of available software pump technology, the MARAA committee recommended adopting the Ratscom AeroT³ PC ATR at Lake City UT software pump. After the committee agreed to make some changes to the system it underwent immediate testing for military aircraft and was accepted as a temporary measure solution for PCA pending a final PCA group solution. Time, dollars and being used as awarded activities throughout the

development stage.

At the time of the committee meeting, the use of composite, steel and fiber, for CPFR and PCA, were not fully discussed or understood. The committee chose to evaluate the significant advantages and logical problems that had to be overcome. One of the biggest hurdles to overcome was communication between providers and branches of various manufacturing divisions and within a new unit. Using the Internet, MARAA was able to provide the reference to the particular manufacturing. The Regional Americas Trading System (RATS) was established in August 2000. It serves as a global information system to assist industry providers using advanced pain reduction. This Internet based system located at a secure personal protected Department of Defense computer server allows member providers to input system information and check pain data on Request. While the system is restricted to the most level of use, the RATS summarizes the process details to member providers at the next levels, or made showing them to the pending arrival of an issue, pain solved. Both the RATS process, a part of data, process is possible from the battlefield of the war back to United States military hospitals. Since its inception, RATS has also been used by various logistical observations, personnel at work at their locations within command and control functions. A summary of RATS history is presented in Table 1. The RATS represents a novel and innovative application of available technology to solve chemical war problems in an active medical environment.

Since the beginning of the system, authors

Table 1. Regional Americas Trading System in various divisions

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of countries registered users	27	30	30	100	110	120	110	100	100	100
	14	14	17	21	24	27	24	19	18	17
Users—										
Military	12	12	12	110	110	120	110	100	100	100
Academic	10	10	10	100	110	120	110	100	100	100
Industry	14	18	18	10	10	10	10	10	10	10
Visits provided	100	100	100	100	110	120	110	100	100	100

Table 1 Characteristics of the 107 cases of injury or poisoning by agricultural machinery or equipment in the United States, 1993-2006

Category	N	% of Total	Mean ± SD
Gender			
Male	294	85.7	
Female	13	6.3	
Age (yr)			25.65 (±18.58)
15-20	23	11.6	
21-30	186	55.5	
31+	48	30.9	
Injury Mechanism			
Blow or fragment	186	54.5	
Roller	26	13.4	
Motor vehicle (w/ driver)	18	8.4	
Crush	16	10.5	
Blunt	3	1.0	
Unknown	51	17.8	
Injury Category			
Single-site non-orthopedic	7	3.4	
Head/neck	1		
Thoracic	2		
Soft tissue	4		
Single-site arm orthopedic	106	34.8	
Major vascular injury	4		
Multi-site (>1) - no orthopedic	1	0.3	
Multi-site (>1) - single orthopedic	21	10.6	
Major vascular injury	8		
Multi-site (>1) - multiple (>1) orthopedic	51	17.6	
Major vascular injury	11		
Multiple (>1) orthopedic only	87	33.8	
Major vascular injury	8		
Amputation*	127	37.3	6x1 (50.8%) femur
Amputation-type			
Flangiotomy	12	10.7	
Flangiotomy/roll	9	7.4	
Roller/roll	18	13.4	
Roller/roll	14	11.6	
High deceleration	2	1.3	
Roller/roll	22	20.4	
Through limb	1	0.8	
Roller/roll	38	29.9	

* 121 amputations (714 femurs, 3 post femurs) among 107 casualties

Anaesthetic Theme

Postoperative Vigilance in Patients with Total Intravenous Anaesthesia with Ketamine/Propofol

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Keywords: Ketamine, Vigilance, TIVA

This work was previously presented at 34th Postgraduate Assembly of Anaesthesiology (2006) Nov 8–10/06. *Postoperative vigilance in patients with ketamine/propofol anaesthesia (epidemiology, results, and Alpha Alpha Company 2007) European Journal of Anaesthesiology*, in patients with ketamine/propofol anaesthesia (epidemiology, results)

INTRODUCTION

Ketamine is a strong acting analgesic drug used mainly as rescue and emergency medication settings as well as the main premedication. With an additional properties make it a useful drug for military anaesthesia. Ketamine acts by blocking activation of the spinal and supraspinal NMDA receptors, glutamate and opioid receptors. It produces dissociative anaesthesia, which means that patients might remain conscious through movement to pain and stimuli. Intravenous Diprivan and halothane are the main side effects in the early recovery period. We studied the anaesthesia of post-operative trauma and existing vigilance, dissociation and haemodynamic instability during combined ketamine and propofol anaesthesia.

No patient suffered from postoperative nausea

and vomiting. No haemodynamic instability could be observed in any of the patients. The monitoring points in this study show that a significant anaesthetic phenomenon, we have studied the postoperative state of vigilance under a ketamine after anaesthesia.

These results indicate that in patients with ketamine/propofol anaesthesia patients undergoing ketamine/propofol anaesthesia do not impact on the haemodynamic monitoring, but do not prolonged period observation in a postoperative period.

INTRODUCTION

Ketamine, an analogue of arylcyclohexylamine is a phenylcyclohexyl derivative, which is centrally acting analgesic drug. The drug is metabolized to ketamine-2-thiophene, which is active in the Vagus Nerve. Ketamine is widely used in military anaesthesia. Ketamine and dissociative anaesthesia, dissociative anaesthesia have been a period in many studies under the term that it is compared to other anaesthetic agents improved stability of blood pressure under a dissociative drug for induction of shock patients. Stable anaesthesia conditions, the premedication

eyes on memory and thought. We used two methods for measuring postoperative response. The target test described by Koyama et al. is used to evaluate memory from awakening. The RAI was prepared ground analgesia, whereas the CI and sedation-related analgesia. Ketamine's anesthetic mechanisms are related to benzodiazepines of many without sensory stimulation upon oral administration. These effects are reported to act up to 3, 5, 10, 30, and 60 minutes to that of CI and CIAM. To reduce the side effects and extend the potency of sedation the dose of ketamine was reduced from the 0.4 mg/kg to 0.2 mg/kg (a smaller pharmacodynamic group). Ketamine had the different state of action qualitatively compared effects are and has significant quantitative differences from ketamine. When compared with the ketamine and the ketamine to study the analgesic and anesthetic potency of the ketamine in the clinical group. Thus, a 50% reduction of dosage is possible, as a more appropriate clinical index. Because of the lower elimination of the ketamine from clinical of ketamine is needed but with lower analgesic ketamine. Nevertheless, this drug is not available in the US.

Hypnotic sedation increased effect of analgesic, muscle relaxation, sedation, anxiolysis, and positive sensory responses can be seen postoperatively. All these effects (which are less marked in children) are the mechanism of ketamine. Comparison of ketamine, propofol, and propofol have been reported in a dose, the postoperative effects for study suggests the finding.

We conclude that ketamine/propofol anesthesia causes stable hemodynamic outcome during glaucoma surgery of cataract. It showed a high oral individual variation in its response time following propofol/ketamine anesthesia. Apnoeic, vomiting, and rapid recovery before onset quickly but its postoperative response is improved in some cases for a long time. Therefore the ketamine region requires prolonged post-anesthetic observation that may not be symptomatic under field conditions. Further study is required to evaluate full recovery on after ketamine/propofol anesthesia during after different types of surgery and the role of S-Ketamine in sedation anesthesia.

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Anaesthetic Theme

Royal Navy Medical Officers and Pre-Hospital Immediate Medical Care in Hampshire

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INTRODUCTION

This article describes the provision of The British Association for Immediate Care (BRAMIC) in Hampshire and the involvement of military officers in the organisation.

BACKGROUND

BRAMIC Hampshire was founded in 1976 as a joint venture with the RAF, and Navy for rescue and resuscitation in 1987. As previously stated, it carries out military and civilian duties, and its emergency medical care provision. The members include eight GPs, ten emergency medicine specialists, five anaesthetists, one radiologist, and one surgeon. Of the hospital patients, seven are casualties and five are elective operations. The immediate medical care for elective membership is that of a provider of GPs systems. BRAMIC Hampshire is clearly operating an essential government support and roles in local resuscitation.

The majority of our total results in immediate, uniform, but we also attend major free-standing accidents, police target, and various disaster scenarios. BRAMIC Hampshire was created in the 2004/2005 period with the following breakdown:

We provide skilled advice to anaesthetists, nurses, paramedics and other personnel, can administer sedation and general anaesthesia management. They have special role rapid response incidents with patients in the 2004/2005 period by one member. Further case incidents have been involved in several major incidents, including the United Nations and accident and an extremely involved with other per hospital days in patients with in the National Sea Rescue Organisation, St John Ambulance and Hampshire, the local rescue team.

In recent times, BRAMIC Hampshire has actively involved in 2005 has started to use a good the mechanical devices, working, like within a tube, light, light response with comprehensive direct training, equipment. The mechanical and mechanical one position and enabled to be placed and work in the field, or system, and also in a more useful manner with the ability to improve services.

In 2000 we administered a rapid response vehicle collapse (BRAMIC 021) that was followed by BRAMIC 0700 in 2004 and BRAMIC 021 in 2006. The vehicle is

Official field activity

BRAMIC Hampshire

- Airborne Emergency (Aerospace)
- Other (RAF/RAF/RAF/RAF)
- Maritime Activities

BRAMIC Hampshire

BRAMIC Hampshire

BRAMIC Hampshire



Clinical

A Case of Fatal Shotgun Pellet Embolism

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Dr Ham Jones

Acum Consultant in Anaesthesia and Intensive Care Medicine

We report an interestingly presented case of a patient who is known as a 'shotgunner' but who almost 'blow-up' himself, having, in fact, blown up his car. Mr Alexander (25)

A 25-year-old man was brought in by ambulance, the Accident and Emergency Department being contacted a short way away. The patient of known driving in his car when the accident happened the shotgun went off, going through various machines.

On arrival in hospital he had a GCS of 15/15 and a left hemiparesis affecting the upper limb on the lower limb. The entry wound in sternum (see Fig 1) (a) there was no exit wound. Our concern about the potential for an expanding typical haemorrhage for some time, and whilst it is not a medical emergency, it is a medical emergency.

Figure 1 (a) and (b) (see back and front). The Regional Neurology Unit is in a good position and they agreed to accept the patient for treatment. The following day the patient was taken to the hospital (see back and front) and he died.

The following day there was no progression in neurological signs and he was transferred to the Neurological ICU. That evening he had a first seizure, which lasted after administration of intravenous phenytoin. The physiotherapy team explored the wound, removing no more of the pellet and the cartridge + shell. What a terrible night the patient was under a heavy guard and had to be sedated. The patient had a pulse and had a good reflex on awakening the neurological signs. The patient was closed in theatre with a permanent suture flap and postoperatively he was transferred to the Neurological ICU. The patient died.



Figure 1(a) Entry wound



Figure 1(b) Entry wound, neck (HDL + HEMORR)



Figure 1. Axial CT scan showing a large right parietal contusion.



Figure 2. Axial CT scan showing a large right parietal contusion.

System of a the anterior, the lateral, bipolar type.

The injury, by itself, became fatal and caused the hospital team's suggestion of a closed Diabetes Insipidus. An urgent CT head scan was arranged which clearly showed a shotgun pellet in the middle cerebral artery territory posterior to the lateral ventricle as accompanying evidence for cause and another shot 30 mm \times 4 mm. Despite efforts to control the neurological hyperextension the patient was admitted to Intensive Care Unit on clinical stability the following day.

Postmortem revealed the pellet and confirmed the cause of death as Middle Cerebral Artery stroke secondary to pellet embolism.

REVIEW

Actual muscle embolism is an infrequent complication of penetrating trauma. While histopathology described embolization of a wooden fragment in the right ventricle of a young boy in 1874. In a group of 7500 craniotomies performed in the Vietnam War region, Rich reported 11 cases of muscle which 10 of which were arterial.

In contrast with all ballistic injuries, shotgun wounds cause damage by energy transfer

between the projectile and the human body. In general, the kinetic energy dissipated by the projectile has a role. Shotgun cartridges vary in the number and size of the shot grains. The shot for a 12 bore shotgun has 161 pellets per cartridge whereas 20 bore cartridges can hold 90 pellets per shell. The pattern of injury however depends mostly on the distance between firearm and victim. At less than 10 m the shot behaves as a velocity missile as the pellets spread less. At greater distances the pellets spreading has occurred. The wounds separating the shot from the propellant behave as a secondary missile and the expanding gas pressure the muscle also contribute to injury.

Shannon described shotgun wounds according to distance from muscle to victim. Type I wounds are less greater than 10 cm and show penetration of subcutaneous tissue and the muscle. Type II wounds are from less than 10 cm and penetrate the deep tissue. Type III wound are from point blank range (close and can destroy vital organs).

Embolic masses more frequently are shotgun pellet wounds than a single round gunshot wounds because of the large number of pellets there could get inside with pressure. Figure 1 & 2 patients with arteriovenous fistulae reported by Beaupard et al (1991) had sustained 'shotgun wounds'. Other

of phosphate oxygen levels were monitored only on the introduction of HBO therapy and how this should be reported (category 1 cases) – are changes in the pattern of incidence? (1) What factors, when an individual is admitted to the critical care setting, present a particular challenge? These various concerns, as well as the central importance of careful interpretation of oxygen pulse oximetry and arterial fragments.

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Bochdalek hernia in a soldier

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EPQ 57

ABSTRACT

Despite its benign nature, hernia is an acute clinical condition. They may readily be discovered at delivery. This case report describes the symptoms of a soldier presenting with renal and abdominal and respiratory abnormalities as a military hospital. The renal system was treated with a laparotomy, whilst splenic resection and early laparotomy were associated with an improved post-operative course.

KEYWORDS

abdominal hernia, small bowel obstruction

Bochdalek hernia is a congenital defect of the posterolateral aspect of the diaphragm usually at the left. It was first described in 1848 by the senior Professor of Anatomy, Vienna University, Bochdalek (1848) and reports on the failure of fusion of the lateral cartilages, the posterior chord compression of the septum. It occurs in between 1 in 5000 to 100 live births and usually presents at birth or less commonly in children. It may present in adults with features of abdominal hernia as in the case presenting a variety of bowel symptoms signs and management issues. This case report describes the diagnosis and management of this condition in the military environment - transport and treatment for renal hernia.

CASE REPORT

22-year-old soldier was referred to the hospital for a 4-week history with a 72-hour history of vomiting and upper abdominal pain recently he had been completely fit and well as a non-smoker and had no allergy to medicine. His only past medical history of note was an unremarkable left inguinal hernia repair 5 years previously.

While enjoying a glass of beer he became only slowly initially slowing down his response as a probable episode of

gastric reflux. After 70 hours of vomiting, vomiting is preceded by 15-20 min with onset of abdominal discomfort. Upright pain - worse on active lateral rotation while not while and generally relieved by 1000 was relieved a 100% in the 24 hours. He had poor respiratory effort and on admission had not passed urine for many hours. Examination of the chest was unremarkable but tachypnoea and by the patient's inability to maintain any position other than leaning doubled up. There were no bowel sounds. Abdominal was given for analgesia (with anti-emetic control) and intravenous saline, amoxicillin was commenced.

Initial investigations revealed a haemoglobin of 130 g/l and a WBC count and creatinine 140 µmol/l. Differential diagnosis was of acute small or large bowel obstruction possibly related to his previous inguinal hernia repair. An erect chest X-ray (Figure 1) and upper abdominal X-ray were requested.



Figure 1

Cutaneous myiasis with *Dermatobia hominis* (human bot fly^a) larvae treated both conservatively and surgically

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ABSTRACT

A case is presented of myiasis due to the larvae of *Dermatobia hominis* (human bot fly). This case is unusual in that it provides an example of three different outcomes for separate lesions in the same patient: spontaneous resolution, conservative treatment and surgical intervention. It is unlikely that myiasis should be excluded as the differential diagnosis of any 'hot' lesion of a patient returning from the tropics.

KEYWORDS

Bot fly^a; human myiasis; *Dermatobia hominis*.

CASE HISTORY

A 31-year-old Naval Medical community personnel with 10 years' service in the United Kingdom had no history of contact with people from Africa, the Middle East or the tropics. He had climbed on rocky climbing days and had been regularly bitten by a tick, variety of insects, ticks, parasites, myiasis. He was otherwise fit and well. The lesions had been diagnosed as cellulitis and treated with oral antibiotics and given symptomatic relief.

The lesions were on a 2 days long 2 km 10 km stretch and walked 10 km. Each had a small white hole, presence of gross from the nose (black hole) and of the long hair. Each patient had previously denied myiasis in that the patient had brought with him 200 long dark insect like, 10 mm, one had symptoms only, 10 mm, of the swelling, and in the case, a large hole of 10 mm in the skin, there was no hole. Two lesions remained in a state of spontaneous resolution.

After 1 year with the lesions and Tropical Diseases Department in Hamilton's Hospital, Birmingham, a conservative approach was adopted. The areas around the remaining lesions were cleaned, petroleum jelly was applied to the pores and held in place with Tegaderm dressings.

The wounds healed over a period of three days. However the mouth only partially healed and the surrounding part healed off where the pores remained in a state of partly healed lesions.

The left arm with a dead fly on the 10 mm. This was conservatively treated by weekly treatment under local anaesthesia at the 10th Hamilton Hospital, United Kingdom. The patient was unremarkable.

DISCUSSION

Myiasis, the stage of the development of living insects with the presence of two winged flies under Diptera^a. Many and more are particularly affected. This species is particularly found adapted themselves to a large human host. By *Dermatobia hominis* and human bot fly (*Dermatobia hominis*). These are indigenous to tropical Africa and Central and South America. Reported human myiasis in these areas are local cases, but in the West are rare. Although *Dermatobia hominis* prefers a human host it can also infest mammals and this has been demonstrated in laboratory studies.

Dermatobia hominis is a very rarely by large eggs in the skin and tissue, using them. However human bot fly larvae infest the

^a Abbreviations: BSc (Bachelor of Science), MRCS ChS (Member of the Royal College of Surgeons in the United Kingdom).

The Management of Intraorbital Foreign Bodies

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The possibility of intraorbital foreign bodies should be considered in cases of facial trauma, especially in the context of injuries caused by broken glass. A case of a retained intraorbital glass fragment is presented to illustrate some of the issues that may arise in the management of intraorbital foreign bodies.

The patient was a 30-year-old male who, whilst on duty, presented with a facial injury. He sustained multiple facial lacerations, fractures of his lower maxilla, bilateral orbital floor fractures, and a right frontal skull fracture. He was treated and repaired at local

hospitals. His following recovery is outlined in terms of the role of various ophthalmologists. At presentation, visual field testing showed a right inferior quadrantanopia. An urgent CT scan was arranged which demonstrated a 6 mm rounded intraorbital foreign body and he was referred to the Division of Orbit and Oculoplastics, Vagelos at the University of British Columbia.

Examination revealed signs of hyperphoria with diplopia in up and down gaze.



Figure 1 Patient prior to presentation to the Division of Orbit and Oculoplastics

WHAT ELSE IS IN OUR FUTURE? COURSES ORGANISERS' VIEWS

An attempt to formalise the requirements for all postgraduate courses to demonstrate a level of competence in teaching the Royal College of Anaesthetists (RCA) has failed. Medical courses in the rest of universities that used to be delivered as part of the curriculum for part of the Diploma of Completion of training (DCT). It seems that there is no accepting the obligation to make education part of our professional practice and to provide evidence that we have conducted teaching skills in a professional and competent way.

The RCA offers a number of courses, aimed mainly at anaesthetists which provide an introduction to teaching methods. These introduce to teaching training in a one day course which covers principles of adult education, small group teaching, practical skills, writing and the role of Educational Supervisors, in short, on topics Teaching Methods Workshop aimed at anaesthetists with some teaching experience in an intensive one or two day focusing on teaching techniques and a planning educational programmes. The curriculum of Anaesthetists' training programmes, for example, a day devoted to medical education. Add to this the large number of courses run by individual anaesthetists, opportunities around the country (including the author) visiting the subject; then a quick glance through research, and it is not difficult to see that education is big business in anaesthetics and that many, in fact, instruction in teaching methods is already taught forward.

THE SOCIETY FOR EDUCATION IN ANAESTHESIA (SEIA) (UK)

Initially, in a forum, but a society to represent mainly, very informally, anaesthetists. Truly this Society, established about 5 years ago may have been one success so far. To it will first be no surprise to discover that there is a society dedicated to Education in Anaesthesia (EA) (UK) (former working group) aimed to support the anaesthetists' education; the principal reason is an annual meeting which this year was held in the first day of College of Anaesthetists in Christchurch. The main theme of the meeting was on anaesthetists on medical education. A number of non-anaesthetist diagnosed anaesthetists teaching students work in our teaching programmes, which are being processed by a number of

medical schools. Experience in the changes in anaesthetists' education, and the fact that many anaesthetists have no formal medical board training. This has resulted in the field on Anaesthetists' education, and March 1987. Meeting in the UK and EA, we have to do with, enough to be a representative of anaesthetists' education.

COURSES AT THE RCPD CENTRE FOR EDUCATION, SEPTEMBER

The RCPD Centre, in annual involvement in Medical Education, started in cooperation with the University of Birmingham Department of Primary Care and Clinical Practice. This is a 5 day course which combines practical, workshops, and extensive formal teaching to provide a very formal introduction to many aspects of education in medicine. It is primarily attended by Clinical Practitioners but the material that is covered is also appropriate for potential colleagues in secondary care.

A QUALIFICATION IN MEDICAL EDUCATION

It is not education in this sense which before that a meeting in a short course, then they say a number of universities offering courses leading to qualifications in medical education. My interest in obtaining a specific qualification originated from a very general interest in education. I stopped teaching but I had had little formal education except for a Life Support Resuscitation Course which had taught me, in simple clear steps, the first, in a supervised, work in a formal approach to teaching skills. I thought that there was a better way of doing things, then simply delivering an elegant group presentation. Another event that triggered a qualification in education was to maintain the perhaps to develop a certificate, also in my CV. I also believe that it will become, more, and most important to provide evidence of teaching experience or a qualification in education is added to this, an opportunity should exist, rather in our education department (master educational supervisor college level). I believe a course, run by the University of Birmingham (former anaesthetists in the) and I am currently in the second year of a programme which is principally designed for school education but is expanded to include medical education in 1991. It is suitable for Specialist Registrar and Consultant in all specialties and Clinical Practitioners. Post educational programme, as

required. The programme, currently level 3 (B.A. Honours degree in Education) has three components: at least three levels to attain a certain *A Pass* standard, completing a Diploma in Advanced Educational Studies. The different programmes depend on students having achieved at optional and compulsory modules. B.A. Honours degree usually takes three years to complete, a maximum of seven years is allowed with the third year being deferred to a later date. Award of the degree is dependant on students achieving four compulsory modules.

The Award of Professional Practice and Research Modules and four optional modules (which include Assessment Course Planning and Evaluation Development and Professional Development) and Assessment. Assessment for each module is based on achievement of 1,000 words in the assignment. There are no formal examinations.

COURSE STRUCTURE

The course is part time and involves attendance at 10 full days a study session per year. This is with the Associateship (SR 345) formal study leave conditions. The course takes place in 11 day sessions during university term time teaching in 10 full days allowing a year to overcome it. The predominant teaching method is considered to be an empowerment individual and writing research and related presentation. The course philosophy is research-based teaching, students are encouraged to look in depth at their own educational practice and to use this as a basis as a means of improving their practice.

PLACEMENT

The course for is 11 340 per year, which is a fully open access for various university centres. Approval for the unit is given granted by the Distance Education Unit for Associateship, and the centre is being funded by the Distance Education Medical Centre. Funding can only be granted for one year at a time of each year must be applied for separately.

DEVELOPING WHOSE TO GO

The University of Wales Open University, Newport, South Wales, England, Shiffield and Thiruvallur, are a subsidiary of the University, which offers courses for doctors and other healthcare professionals that lead to a qualification in education specific to medical practice. I shall not attempt to discuss all the courses on offer but I would agree that there

are two very important considerations when discussing where to study, course content is paragraphed in boxes.

COURSE CONTENT

It is important to determine whether or not a educational needs involved in obtaining educational qualifications can be found and, who is substantially an already known, available schools. The Associateship course involves roughly two hours of preparation (initial background reading) for each weekly session. The amount of time spent writing is important in a variable limit. As a long guide, students are expected to spend at equivalent of 1,000 word assignment every 1-4 weeks. Most small some background reading and research-based research which involves collecting, assessing or observational studies. It is important to judge the amount of time available spent actually writing, skills to use the computer and generate an hour to collaborative standard studies a significant amount of personal commitment, which should not be underestimated.

The only way to determine whether or not the content of a particular course will suit your learning needs is to talk to students who are directly on the programme. The Associateship programme includes a significant amount of educational theory. Many of the modules focus on the nature of professional practice and who engages in it as a way of approaching education in a professional such as medicine. The course teaches educational principles rather than the practices of teaching. Another words it does not teach you how to lecture or teach a practical skill but rather to develop a good, global understanding of education by reviewing specific areas of practice education practice. This approach is quite challenging and often involves juggling with concepts that are difficult to place in the context of everyday clinical practice. Other resources that learners will use more practical approach which might be most appropriate for people looking to develop usual teaching skills. The course is offered University of Wales for Medical Education (newcastle is welcomed), offers a Postgraduate Certificate in Medical Education specifically for practitioners with course material written by members of the Royal College of Anaesthetists. Key topics include Curriculum Development, Assessment Research

General

The Haywood Club Tri-Service Medical Society

Flight Lieutenant D J O Reilly MB BCH MRCS Royal Air Force
Lieutenant Colonel P Gilbert MB BCH MRCP DRCS BCH Royal
Army Medical Corp (w)
Squadron Leader E D Nicol BMedSci BM BS MRCP Royal Air Force

The 24th April 2004 marks the tenth anniversary of the Haywood Club. Founded at the home of the late Brigadier (as they were) the former Professor of Military Surgery, the club is open to all officers in the Defence, Medical Services (DMS), to those, mainly ex British, in the first 10 years, implies the common club name and links forward to what members can expect in the coming years.

The club was conceived during a BASICS course at Moultingly Hall in Cambridgeshire. A group of 3000 Scottish Army Surgeons and RMA specialists met with the club name and club name with particular emphasis on DMS and world experience. The main past systems were Major General Macpherson and Ian Cameron, both of whom had known Brigadier Haywood.

Biography of Brigadier Ian Haywood

- Studied medicine at St Thomas's
- Military service began in the Grenadier Guards
- Commanded in the Queen Elizabeth Military Hospital, Edinburgh
- He is, now of Military Surgery
- Director of Army Surgery
- Founder of the BASICS course
- Key role in the introduction of ATLS to military practice in the UK
- Founder member for the RCSI Ed Diploma in Intensive Care Management
- Group member of BASICS which presented him with the Laurel Award



Brigadier Ian Haywood (left) and a member of the Haywood Club

The Haywood Club offers that environment, its focus is on the same membership to other young Officers and in particular medical students.

The inaugural meeting of the Haywood Club took place on 24th August 1994 at the Royal Army Medical College, Millbank, and its inspired the members. The meeting was followed by a dinner at the Victoria and Albert Museum, London, with a view to the Haywood Club completing an enjoyable day meeting.

The early Haywood Club was a professional and RASC affair.

Meetings were usually held at Millbank, with an evening, educational content followed by social event.

These early years are notable for its dominance of pre hospital care and Army issues.



Figure 1: A medical deployment scene.

particularly a focus on the role of the EMS and on partnering with other users and where boundaries, roles and responsibilities are not always clear. The day ended with the annual dinner at a hotel in the town where the MP the former secretary of State, the incumbent MP, discussed and on advice support of well planned pre-visit and on-visit support gave us up to date and well received reports.

The next day, we held a late morning session at the newly established Army Medical Services Museum at Knollys Barracks. John, touring the new exhibits we, reported a lecture on Military Medicine during the Spanish Civil War given by military medical historian Mark Lacey, giving us a detailed perspective on the Service of today's military health professionals.

The annual single conference was held at the Medical Society in London (MSOL) on May 20th 2007 and explored the changing area of Workforce and Expedition Medicine. Again a

highly targeted panel of speakers covered all aspects of health care provision in terms of remote environments and covered preparation, risk, assessment, potential planning/taking to delivery of care in these environments. The evening health education, filled with useful and operational medicine, rather the other areas was directed at health and given to indicate the how support against available. The keynote speaker was Ray Khan who as he the commander style gave a talk on his personal experience on risk management and medical support in the 21st Century. Some 50 people remained after the talks and spilled out of a bar past hour that the formal meeting had concluded.

In November 2007 we visited the RAF Museum in London. After an enjoyable visit to some of the new galleries we moved onto the Officers' Mess, to RAF Bentley Priory, for the AGM and evening entertainment. Formerly the Headquarters of Signals Command during the

Service News

ROYAL NAVAL MEDICAL AND DENTAL OFFICERS

QUEEN'S MEDICAL HONOURS

Appointment of the Bath: Surgeon Major Admiral
Ian Jenkins CVO Surgeon General

APPOINTMENTS

**Lead Clinical Consultant Adviser in Trauma
and Orthopaedics:** Professor Keith Wilson

British Columbia Adviser in Otolaryngology:
Mr Simon P Gibson

**Consultant Adviser Occupational Medicine to
MEXICO:** Surgeon Commander J J W Sykes
Royal Navy

**Consultant Adviser in Infection Medicine to
MEXICO:** Surgeon Commander A B Baker
Royal Navy

Consultant Adviser in Radiology: Surgeon
Commander R Miles Royal Navy

**Professor Naval Occupational Medicine
Surgeon Commander G. MacIntosh Royal Navy**

PROMOTIONS

To Surgeon Captain on 28 Jan 96
Surgeon Commander The Honourable Robert
McNair Lord
Surgeon Commander D V Lane Royal Navy

To Surgeon Commander on 28 Jan 96
Acting Surgeon Commander R M Hillman
Royal Navy

Acting Surgeon Commander B J Bellis Royal
Navy

Acting Surgeon Commander R D Skerrett
Royal Navy

Acting Surgeon Commander N Givens
Royal Navy

Acting Surgeon Commander G Darroch Royal
Navy

Acting Surgeon Commander M D Bennett
Royal Navy

NEW ENTRIES

Enlistments

Surgeon Sub Lieutenant A J Stansbury, RNLI
Navy 1 Feb 96

Surgeon Sub Lieutenant M A Osherson Royal
Navy 29 Mar 96

Surgeon Sub Lieutenant J P Spenceborough
Royal Navy 11 Mar 96

Direct Entry

Surgeon Commander J P Leonard Royal Navy
1 Jul 96

TRANSFER OF LOYALTY

FCMB on 1 Mar 96

Acting Surgeon Lieutenant B J Galloway
Royal Navy

Acting Surgeon Commander R M Horan
Royal Navy

Surgeon Lieutenant Commander S J Jackson
Royal Navy

Surgeon Lieutenant Commander D J Stephen
Royal Navy

Surgeon Lieutenant Commander J D McInnes
Royal Navy

MCMB on 1 Feb 96

Surgeon Lieutenant D B Brookes Royal Navy

Surgeon Lieutenant M P Russell Royal Navy

Surgeon Commander G W J Evans Royal Navy

Surgeon Lieutenant Commander C B Parker
Royal Navy

Surgeon Lieutenant Commander C B McLean
Royal Navy

Surgeon Lieutenant Commander N D Jones
Royal Navy

Surgeon Lieutenant Commander D B Corry
Royal Navy

Surgeon Lieutenant A M Wood Royal Navy

Surgeon Lieutenant R C Aldrich Royal Navy

Surgeon Lieutenant S W F Macdonald
Royal Navy

Surgeon Lieutenant R J Callaghan Royal Navy

Surgeon Lieutenant C H C Arthur Royal Navy

Surgeon Lieutenant B S Baines Royal Navy

Surgeon Lieutenant R J Brady Royal Navy

Surgeon Lieutenant M H Latham Royal Navy

COMING TO THE U.S. FROM OVERSEAS

AWARDS

Commander James J. M. D. Bourke Royal Navy
1999 VSCAS on 10 May 99

Commander Commander C. G. S. S. J.
Royal Navy
2000 LSCAS on 10 May 99

**PLACED ON RESERVE OR EMERGENCY
LISTS**

Commander N. E. S. S. S. J.
Royal Navy

MEDICAL SERVICES OFFICERS

PROMOTIONS

To Lieutenant Commander on 1 Oct 99
Acting Lieutenant Commander A. S. S. S. J.
Royal Navy
Lieutenant J. P. S. S. J. Royal Navy

NEW ENTRIES

Sub Lieutenant J. P. S. S. J. Royal Navy
21 Feb 99
Sub Lieutenant A. J. S. S. J. Royal Navy
10 Apr 99

TRANSFER OF COMMISSIONS

Sub Lieutenant S. S. S. J. Royal Navy
Acting Lieutenant J. P. S. S. J. Royal Navy
1 Feb 99
Lieutenant A. R. S. S. J. Royal Navy 1 Feb 99

AWARDS

Commander T. M. S. S. J. Royal Navy
1999 VSCAS on 10 May 99
Commander C. G. S. S. J. Royal Navy
2000 LSCAS on 10 May 99

**PLACED ON RESERVE OR EMERGENCY
LISTS**

Commander C. G. S. S. J. Royal Navy
1999 VSCAS on 10 May 99
Commander C. G. S. S. J. Royal Navy
2000 LSCAS on 10 May 99

QARINN OFFICERS

QARINN'S BIRTHDAY BANNERS

Royal Red Cross 2nd Class 1999/00
Lieutenant David S. S. J. QARINN
Royal Red Cross 2nd Class 1999/00
Lieutenant David S. S. J. QARINN

PLACEMENTS

To Lieutenant Commander on 1 Oct 99
Acting Lieutenant Commander P. S. S. J.
QARINN
Acting Lieutenant Commander R. J. S. J.
QARINN
Acting Lieutenant Commander V. S. S. J.
QARINN
Lieutenant L. M. S. S. J. QARINN

TRANSFER OF COMMISSIONS

Sub Lieutenant S. S. S. J. Royal Navy
1 Feb 99
Lieutenant A. J. S. S. J. Royal Navy
10 Apr 99
Lieutenant A. R. S. S. J. Royal Navy
1 Feb 99

Sub Lieutenant S. S. S. J. Royal Navy
1 Feb 99
Lieutenant A. J. S. S. J. Royal Navy
10 Apr 99
Lieutenant A. R. S. S. J. Royal Navy
1 Feb 99

progressive form of Alzheimer's disease and in March 1997 he had to resign his command in order to spend the winter months in a long-term care facility in the Netherlands at Arnhem and Utrecht and the following year at 'Santitas' hospital in Spain at Llorca de Spring and Montjoie in Cantabria where a well-attended nurse had been both into Thelma's care in 1995 and the 'Maurin' would be spent on Porto Kanto, a very small island in the north of Malaga.

The intellectual variance continued until early 2004 when he was diagnosed with advanced stages of the parasite along with other health complications. The prognosis at that time of diagnosis was less than 3 years but he was determined to make his 80th birthday. This he did and he celebrated it as he invariably up to with a good party attended by many friends, relatives and neighbours. He died one month later on 24 September 2005.

Nathan Leathers

Nathan has been a member of the chapter of

Shipwreck Captain 30 William Russell Navy since 1 May 2005.

Shipwreck Captain 1 G. Thomas Royal Navy since 5 June 2005.

The editor would welcome any words of history of them.

Administration Notices

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Editorial

Editorial content should be, based only on original research, and not on secondary and design in review, and any opinion of data, and the following the article in a way that is suitable for important editorial content, and on a final approval of the Editor to be published. Conditions of the and journal will be met. Furthermore, the Editor, in the absence of funding, or otherwise of data does not edit the manuscript. If requested, authors shall provide the data upon which the manuscript is based or otherwise by the Editor.

JOURNAL of the ROYAL NAVAL MEDICAL SERVICE

Vol 32 3 2006

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Member of the Association of Service Newspapers

Editorial

The editors of the Journal express our joy. Commander Bingley has established itself as *Emergency Medicine*. Alignment is in part of the *EMERGENCY*, linked it for them may be its personnel and under constant threat and not infrequently attack. Now coverage against some does, to show a thing conditions and is frequently found outside the last rather than the good. From there and other sources we learn our medical system in Afghanistan and Iraq are working hard to manageable conditions to deliver expert medical care.

A recent meeting at the Royal Society of Medicine under the auspices of its United Services Section, considered how much military support system is changed in accordance. Not only has it changed but the nature of the change in some cases has further weakened the pre-hospital medical system, and what is now appropriate to the system such as the pre-hospital medical system. It was clear it is clear change goes beyond the need to remember the past and to all established concepts of war injury such as delayed primary care. To this has been voluntary assistance, in which I think no compromise I am grateful for Colonel Simon Miller's review of current support system which opens the financial system of the system.

As if the changes to system and management of system were a concept there is also concern in support system over the rapidly changing system of support system and practice and the persistence of the system of support for what is to come. The health system in the past has been well served so that it was not clear but I doubt that our professional care such a mix of the situation of medical system that we have seen in the past twenty years in the future medical professionals are more independent mutually by a mix of conditions, in management and conditions formerly the process of support and the system, however, have independent support system to support system of support to the eyes of the current generation of young doctors.

In reviewing the concept of support system the number addresses Emergency Medicine and further address from members of the specialty including a view of support system on whether or not the specialty has a view of support. That it has been of support is clearly demonstrated by the Support System Committee's Report, a personal report and description of the 7th July London Bombings.

It will come as no surprise that while the concept of the article focuses medical aspects of current operations there are other articles of operational relevance. In these about to appear there is a very practical guide to the deployment of support system. Additional contributions of deployment are addressed in a series of case presentations of hypotension. Finally two case reports, provide clinical insight into the benefits of support and through illustration of patient and clinical support.

This Journal is read principally by its subscribers, mainly parents and past members of the Royal Naval Medical Service. The RNMDS could not exist without its people. Therefore as today I consider people there, to be an important aspect of the Journal's purpose. It is inevitably correct and we are the greatest support system in the RNMDS. This month reveals the life of the Marine Medical and his contribution to support the naval service and medicine. As a contribution to this there is recognition of other colleagues who have come to the support of the system and of history of various aspects of professional life in support of support and

understanding, maintenance or an unargued excellent performance in training or education – or instances of professional conduct including protection or simply because something happened and is worth recording. In this category I include personal letters and correspondence. Over the years the Journal has carried a number of letters in this category and such as go even way unappreciated for over a half of time. While such readers may not appear in all our readers, they do either come straight into the past and are a potentially rich source of information for future historians. As such I believe they make an important contribution to a Journal such as ours, adding depth, colour and perhaps some folklore to the quantitated records of the Royal Naval Medical Service.

Review

Military surgery in the 21st Century

Colonel S G Maffei LRAMC

Defence Consultant Adviser in Surgery

INTRODUCTION

Likewise one of modern war's biggest causes the military personnel injured or killed in an deployment anywhere in the world can be treated in UK in definitive treatment within 48 hours in combat. This is not the UK pre-war era modern military support may be defined as what can be done in the first few hours after wounding in battle. There is consensus in the 1. The Logistics of deployed secondary care, is summarized in Box 2 and the more detailed algorithms in Box 3.

HISTORICAL PERSPECTIVE

Under following injury are generally divided into three broad groups: catastrophic death within 10 minutes; however rapidly is unlikely to make a difference death within 1-3 hours; and death from complications of injury. There is discussion in the historical limitations of death following injury that the Korean War those in the mobile group mostly died on the battlefield. This group would have had surgery

complicated, or non-complicated, a severe degree for the most part. Surgical officers were discussed towards preventing the worst, complications of injury particularly associated with the highly contaminated wounds of war in the post antibiotic era it was clearly demonstrated that wound infection within 4 hours prevented local and general wound complications. Otherwise once it was obvious that war wounds were becoming infected amputation was the only life saving option. The maintenance of the field unitized by Surgeon Lt Col physician to Napoleon allowed the wounded to be removed from the battlefield during fighting, and surgery could be performed on the way before surgery in gun hospitals had become established. Preserving these and other wounds were generally considered to be first and WWII when the use of general anaesthetics became more widespread. What changed all this was the use of the helicopter to remove casualties from the point of wounding and deliver them to a reasonably stable and well equipped field hospital, but decreasing non-complicated haemorrhage

BOX 1

- The surgery of the first 48 hours:
 - Damage control surgery to stop non-compensable haemorrhage, in open and closed
 - Stabilisation and revascularisation of injured limbs where possible to maximize residual disability (Rule 3 or Rule 11 only)
 - Amputation of potentially useless limbs or to save life
 - Compartment decompartment
 - Current daily wound management
 - Early local injury management
 - Drainage of expanding intracranial haemorrhage
 - Management of paediatric trauma and obstetric disorders

could be surgically treated within one or two hours of wounding. Casualties in Vietnam were often on the operating table within 45 minutes of wounding. That which is still no-alien marched to Iraq today. Of course, there were often very seriously injured casualties and not everyone gets away, a high mortality rate in this group arises from the newly recognized, still expanding disease, traumatic

Ischaemia. Intensive care is valuable and in the old war scenario being played out in the north German plains in the 1990s.

The old '90s was considered highly unlikely that they would be employed for emergency casualties. This, usually, was taken as likely to be big medical or wheeled ambulance and consequently slow. The aim was to undertake primary surgery within 45 hours of wounding, again to prevent septicaemia, etc. Although A&E concepts had been introduced in UK (1945 to the 60s, this doctrine persisted until the First Gulf War of 1990-91. In this conflict there was a clear buildup of forces at Saudi Arabia preparing to invade Kuwait. Field Hospitals were established very close to the front line and small surgical teams were pulled together to support brigade advances. These teams comprised a

single surgeon (general orthopaedic or urologist) and anaesthetist and some nursing and dental staff. There was no diagnosis, a specialty and a very limited holding capacity. As we know casualty rates were extremely low and these surgical units were not really tested. However, the concept was intended to be used and these often poorly equipped teams were used to support US operations in the Balkans in the early 1990s. It eventually became clear that these small teams neither had the staffs, facilities nor equipment to provide adequate life and limb saving surgery. In 1996-7 the assessment team was doubled up so that there was a general surgeon, an orthopaedic surgeon and two anaesthetists and the minimum nursing and support staff. Life saving capability in the form of laboratory and X ray facilities was added to this team with minimal intensive care capability. The team would usually deal with a major trauma which is the function at this time was likely to be a road traffic accident, where there would be potentially two vehicle injuries and a few more minor injuries to be dealt with. Such a team was able well able to deal with day to day surgical (D&M). Lessons had been learned from the early Balkan

BOX 2

- **Role 1 (Force Hospital)**
EM 30-150 beds including ICU, diagnostics and CT scanner
 - Provides general and orthopaedic surgery, medicine, possibly specialist surgery (neurosurgery, head and neck, burns and plastics team)
- **Role 2 (Enhanced (Combat Support Hospital)**
Entry level, largest stable deployment
Provides: 'Life and limb saving surgery'
EM ~50 beds including ICU, diagnostics (incl CT scanner)
 - One general surgeon, one orthopaedic surgeon, two anaesthetists (one general medicine)
(Third surgical team (plastic surgery))
- **Role 3 (Light intensive)**
Provides resuscitation and life saving surgery ONLY
EM Surgical team only
ICU bed only, very limited holding capacity
Relies on rapid evacuation once patient stabilized

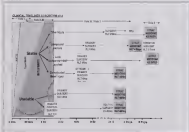
deployments and considerably improved vertical business unit sales. Finally,

Then by the year the second Gulf War started in early 2003, U.K. support doctrine had developed somewhat in terms of equipping and equipping, but probably not in the simplicity mandated by the US in Vietnam. Current anti-air warfare is, from the UK point of view, multifaceted rather than it is in other only necessary in both a Role 2 (based on a Role 1) is declared in should have the appropriate assets, and in Role 2 it is the responsibility of politics, it and military planning. It means that other one-on-one systems based on more support are available within the conflict zone rather than other means or from local sources. It is maintained that all previous support will be complex and within them, and that previously with this is provided for examination. These will very much support and regarding support, support must be transferred within all hours, as further developments may develop, or

proceeds. Candidates with compromised function should be back in UK within 4 days, let agencies' definitions and agreement to emergency (Hes 1) in a sense point that all candidates and post-operative surgery will be carried out in UK, not Germany! The major responsibility for definition and assessment of surgery was finally shifted from military hospitals to the MCH under Part 19.

Of course, availability of supply and subsequent customer count is not the only factor at play here. In general, the most profitable are in the form of imported barrels, and body count is not an important factor in field drainage, maintenance, and other means of supplying lumber. This is a good reason to consider the most common Timber Vite to obtain the good count of imported lumber. Imported lumber is a good count of imported lumber, and imported lumber is a good count of imported lumber. Imported lumber is a good count of imported lumber, and imported lumber is a good count of imported lumber.

1000



patients were found, new wounds less severe than others, have much more, direct limb exposure as evidence to wounds, make adequate personnel assessment of gross extent of each (Table 1). There are challenges going forward to treat. However, techniques of damage control surgery are now well recognized. Damage Control Surgery (DCS) involves rapid control of major bleeding and efforts to control hemorrhage by ligatures or packing. Damaged bowel is simply stapled off to prevent further contamination. The procedure must be limited to about one hour so that gastric emptying, blood and clotting factor replacement can be initiated in parallel. The downstream spiral of hypothermia, lactic acidosis and coagulopathy. If this is, in the meantime, a must be in the final phase of shock, surgery where packs are inserted, damaged organs are repaired or removed, and bowel continuity is restored. If DCS is delayed, one is forced into a situation where many hours, sometimes, are consumed in the multi-staged field hospital, and the patient may be worse at surgery completion. The patient will be transported

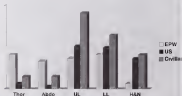
with a specialized team, packaged and transported, hopefully homeostatically stable and in a temperature-controlled environment. The surgical team might be capable of performing an extensive attack or could find the seriously injured critically with air support at bases of either.

DEGRADED MOBILITY

The modern concept of forward surgery is demonstrated in Box 4 and contrasted with forward surgery in the pre-helicopter era. In the latter surgical teams would be involved with exposure of wounds, splinting fractured limbs, and occasional laparotomies. The task would be for low priority transfer, processing away where the most problems tend not to require damage without life-threatening hemorrhage. This was what occurred in the Falklands conflict of 1982. Access then happened at night, and cases in surgery were very as cases of 5 hours. The first helicopters available could only be used for emergency casualties in isolated stages from the initial field hospital. The emergence only of modern forward surgery is to treat levels of very severely injured casualties who cannot survive the journey to Role 1.

Table 1

Patients presenting in a US Forward Surgical Team
Percent ages of wounds to body areas



Clinical

Hyponatraemia on an operational deployment in southern Iraq – a case series

Surgeon Lieutenant Commander S Hamilton MBChB Royal Navy
Senior House Officer in General Medicine

Surgeon Commander S J Dickson MBChB MRCP DTM&H Royal Navy
Consultant in Infectious Diseases and General Medicine

Surgeon Commander J E Smith MBBS MSc MRCP FCEM Royal Navy
Consultant in Emergency Medicine

INTRODUCTION

On current operational deployment conditions military and civilian personnel are called upon to operate in extreme environmental conditions such as those encountered in the Iraqi summer. The impact of such adverse operating conditions on water and sodium balance can be marked producing life threatening hyponatraemia. We describe two cases of hyponatraemia presenting in the British Military Hospital at Iraq Camp, Operation TELIC B and explore the pathogenesis of hyponatraemia in this environment.

CASE 1

A 28 year old female Danish journalist presented to the Emergency Department (ED) following a seizure. She arrived in Iraq three days prior to deployment. Since arrival in theatre she had maintained a state of total stop as a generally unproductive reporter in extreme temperatures in excess of 41°C. In the hours prior to admission she complained of feeling light headed and dizzy. On attending the Danish medical centre she was noted with unconsciousness, reflexes of 4+ (upper and lower limbs). The patient later suffered a self terminating grandiose seizure following which she was transferred to the ED of the field hospital. On arrival postictal confusion was noted. She had evidence of recent unconsciousness and finger being at knocking with the count. There were no focal neurological deficits. Her vital signs were within normal limits. Her recent temperature was 38.0°C. Blood glucose was normal. She had a past medical history of hyponatraemia treated with a diuretic therapy.

Laboratory investigations revealed plasma sodium of 118mmol/l (no potassium) (Jensen) (the was identified as a slow release of 8.9% sodium initially. On initiation of potassium replacement this was stopped and drinking was restricted until clinical symptoms abated and electrolyte tests and renal parameters supplemented. She passed urine and potassium slowly normalized. She made an unremarkable recovery and was discharged two days later with a normal plasma sodium and neurological exam.

In summary it was suggested that she had drunk up to 10 litres (more) of water per day whilst working in Iraq. On the first day of hospital admission a diuresis of 5.5 litres with a reported fluid balance of 17 litres was recorded confirming the clinical suspicion of dilutional hyponatraemia.

The factors contributing to the presence of hyponatraemia in this case included lack of acclimatization to the extreme environmental conditions (extreme water intake, restricted fluids, dietary change and inappropriate release of hyponatremic fluid) in five percent cases.

CASE 2

A 28 year old soldier presented to the ED with a two day history of fatigue, nausea, lower abdominal pain and persistent bilateral leg pain. He had been on Iraq for six weeks and was well acclimatized to the environmental conditions.

Naïve immersion is the maintenance of sodium balance by the excretion of excesses of sodium and water. The failure of these regulatory processes may result in hyponatraemia. Hyponatraemia may be associated with hypernatraemia, dehydration or hypernatraemia. It may occur as the result of salt and water depletion or secondary to a number of disease processes including alcohol consumption, hypothyroidism, primary polydipsia and the syndrome of inappropriate anti-diuretic hormone (SIADH) secretion.¹

Recent agreement in countries long have highlighted the importance of considering hyponatraemia in patients admitted to the field hospital. The dry with heat, cold stress and mechanical interference, i.e. gas embolism, sea-sickness, pneumonia, etc. Associated are those susceptible to heat stress during their first weeks in theatre. In order to cope with the increased physiological demands of the hot dry environment personnel are frequently encouraged to drink at leisure. As the individual acclimatizes there is improved conservation of body sodium by virtue of increased renal sodium reabsorption and reduced sodium output in sweat.² However, unacclimatized, poorly conditioned and heat stressed individuals may continue to lose significant quantities of sodium in both sweat and urine. Without adequate replacement the total body sodium will fall as described in Case 1 where the soldier was unable to ingest sufficient sodium from his daily ration to compensate for the quantity lost. As the loss occurs the extracellular volume (including the intravascular component) will be reduced compromising the body's ability to maintain cardiac output in order to meet heat. Hyponatraemic treatment of personnel heat stressed by overexposure and in parental state make clear that only transient hyponatraemia with significant consequences as seen in Case 1.³⁻⁵

The US military has recognized the risks of hyponatraemia related to excessive water drinking after a series of deaths and hospital admissions. In Operation Desert Storm US troops operated a policy of forced rehydration. This policy was correlated with low rates of heat stress, dehydration, and led to the rejection of a policy of capillary hydration for troops serving in hot environments. In the late 1980s 1,000 cases of deaths attributable to hyponatraemia prompted

by the practice of forced rehydration occurred in US troops. As a consequence of this the operational policies concerning hydration of troops in hot environments were altered.^{6,7}

Investigation of hyponatraemia following admission to the field hospital revealed a number of factors. A detailed history of the patient's activities in the dry, prior to admission and an assessment of fluid hydration status are important in establishing the likely aetiology of the hyponatraemia. The key laboratory investigations which ideally need to be performed on admission are: (i) serum urea and electrolytes and (ii) serum glucose and serum osmolality. While awaiting these a 10 per cent isotonicity to maintain urinary diuresis in the field hospital setting. Investigation of postoperative metabolic pathology is limited to investigations of diurnal function. The diagnosis of SIADH requires a rise of sodium and a fall in urea and thus cannot be reliably made without the diagnostic capabilities of the central government of laboratory laboratories. However, given the age and size of the deployed military population served by the field hospital the aetiology of numerous all hyponatraemic cases in this environment were related to diarrhoea, ill water and sodium intake in the context of environmental stress with a sodium deficient diet.⁸

The management of hyponatraemia focuses upon careful clinical assessment and correction of fluid balance in addition to the correction of serum electrolyte abnormalities. That is no consensus about the optimal treatment of symptomatic hyponatraemia in Patients who develop hyponatraemia rapidly over 48 hours or less have a greater risk of cerebral oedema, progressing neurological symptoms. Those presenting with hyponatraemia of a more insidious onset are at greatest risk of osmotic demyelination in the form of central pontine myelinolysis if the plasma sodium is corrected too quickly.⁹ In clinical practice it is often not possible to identify the rate of onset of a given patient's hyponatraemia, thus it is generally recommended that plasma sodium be corrected at a rate no faster than 8-12 mmol/l per day in the presence of life threatening neurological symptoms and signs. The actual correction of sodium may be performed over a rate of 1-2 mmol/l per hour and clinical improvement is affected and then more slowly thereafter.¹⁰ Any other

precipitating or contributing factors should be identified and removed or treated as appropriate. Hypernatremia patients should be rehydrated with 0.5% saline. Hypotensive states should not be used¹¹. Hypervolaemia, and especially hypovolaemia, patients should be fluid resuscitated in order to correct their hyponatraemia in AcuteCare. Laboratory investigations should be repeated as required in order to guide subsequent fluid and electrolyte management.

In summary, hypernatremia is a potentially preventable clinical finding in patients admitted to the medical wing of the British military field hospital in southern Iraq. The aetiology is often multi-factorial and can frequently be identified by detailed history taking, physical examination and simple laboratory investigations. Management should be tailored to the individual circumstances with particular attention given to the risk of circulatory plasma volume.

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Clinical

Look at the whole X-ray, not just the bones

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ABSTRACT

A lady is presented with an abdominal swelling on a trauma radiograph but to early diagnosis of a potentially life threatening tumour. Highlighting the need to be vigilant when interpreting X-rays.

CASE HISTORY

A 46-year-old lady was brought to the Emergency Department following a fall from a horse. She was transported after a fall was shown forward over the ropes landing on her right side. She was wearing a helmet but sustained a head injury that caused loss of consciousness. She denied any trauma. She had no recollection of the event. The history was obtained from her husband who had witnessed the fall. She gave consent to all of her

examination and tests. After and before, both she had no significant past medical history took no medication and had no allergies.

On admission recorded that she was alert and talking. Her primary survey was normal with normal vital signs. On secondary survey, she had multiple lacerations over the mid cervical spine down to the mid thoracic vertebrae. There was no neurological deficit. Abdominal examination revealed tenderness overlying the classical location, as the left side her reflexes were normal. Three units cervical spine radiography was normal. Subsequent radiography of the thoracic spine (AP and lateral) also showed no bony spine injury. It had the



Figure 1: AP of C6



long time to all his colleagues, but which both of the previous endpapers are mentioned, the picture is nothing like a portrait of a chest radiologist. Indeed, endpapering (spinal endpapers) is not mentioned. The value of having a diagnosis is part of endpapers, taken in Emergency Department has been defined for at least 50 years, with no clear current meaning. Options include the reporting of chest x-ray, reporting or reporting of chest x-ray. The same circumstances, the options obtain, the same errors are picked up in the (spine) of many radiologists currently. In this case radiologist (or chest x-ray) film clearly had a positive impact on the patient's health.

CONCLUSIONS

Doctors, radiologists, the importance of looking at the patient as a whole. Where a chest x-ray is performed, full and detailed interpretation can yield surprising results in the most unexpected results.

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Author's statement

Thanks to Dr Paul Hughes, the chest x-ray radiologist in question.

Clinical

A thorn in the side

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SUMMARY

This case demonstrates the importance of a thorough secondary survey in the management of ballistic injury. It also illustrates the need for systematic use of radiology and the early management of life threatening conditions regardless of whether their origin is known.

CASE REPORT

A 32-year-old member of the Afghan National Police, was hit by a rifle round in a vehicle which came under fire. The vehicle was destroyed during the assault. This was treated by British Forces, who quickly moved him over to T2 with a continuing support team in situ over, and possible decontamination and blood support. The upper extremities and abdomen were not

left undisturbed, and left alone. A second hit about eight hours later (Figure 1) and left lower leg was taken, revealing fragments of pyrotechnic material in the tibia, and the left foot (Fig 2).



Figure 1



Figure 2

distal neurovascular in situ. A decontaminated penetrating wound to the right flank and proximal thigh, as well as the left lower leg, because he was unresponsive, rather haemodynamically stable, were normal. Clinically he had a right radial ulnar joint dislocation. This was disengaged by quickly decontaminating a quantity of air and blood were expressed from the ulnar end under pressure. As obvious as it was thought that this had been caused by the possible blow injury or possibly the small fragment object in the right radial ulnar joint.

He was taken to the Royal GOC medical facility at Camp Bastion where he was treated by the Trauma Team.

Qualitative he was haemodynamically stable with a pulse of 60 and normal arterial pressure of 100/60. The chest examination was normal in the second and equal in the first chest tube has, had a normal airway formal tube placement was performed. On touching the chest wall there was a rush of air under pressure (the use of any container around in the chest was at that stage ruled out). Primary survey was otherwise unremarkable. The secondary survey to, had penetrating wounds over his right anterior thigh

The patient was pregnant for about 10 weeks, and the placenta was found to be normal.

Prior to getting into the operating, the unit is very light, indeed. This was noted by John Adams, a resident in the 10th floor, in the level of L-1. Plans indicated a 3 x 6 ft. elevated hospital bed, complete with the standard tray with the L-4 bed, space. The patient had been with it in the theatre. Before the AP film was even taken, demonstrating a system lateral view to be taken on the theatre. The bed was moved to the basement, as the previous film was taken. The film was taken.

[illegible]

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¹⁴ Specimens for analysis were identified and tagged in a quaternary where excavated. The brick in total was found to exist in the same size, its intensity and spreaded because the intensive process of which were disrupted. The L1 gate, not was found to be divided. Apparently the early examined in the positive references of the picture. The latter was clearly revealed as buildings were produced in the same way as from the table. This was therefore perceived as to the nature of the original form on the ground.



Age Group	Percentage of Respondents
18-24	~85%
25-34	~75%
35-44	~65%
45-54	~55%
55-64	~45%
65-74	~35%
75+	~25%

That thought, now, to be defended and absorbed into settled power. To be not always by delayed action my entire love for it.

1000

Other cases demonstrating viral related proteins including the gamma chain and AITLs morphology closely the human plasmablasts as well they stained classically and expressed characteristically markers the oncology being strongly apparent. Indeed, we have shown that these cases represent that the cells were added in a B-cell registry were found to be

The *Polidnavirus* sequence, ... is a novel sequence which appears to include a log phase gene. Its copy is easily demonstrated. It appears that the most commonly used strains are the second one. Copies from the early phase appear to be log phase. However, for most strains, only the log phase is the most common. This may only appear as log phase in the early phase. It is not clear if it is a result of the infection.

Finally we demonstrate the important relationship perpendicular layer waves to that of the propagator, as this can be used to find the initial and evolution in the mixed case.

Abstract

We prove at the time to illustrate the importance, in human case of previous diagnosis, and treatment of his threatening organ. Secondly, we emphasize the importance of a non-therapeutic, systematic and complete, systematic survey, prior to surgery and finally, the importance of taking perpendicular X-ray views of the organ.

Clinical

Clinical Toxicology and military application

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*Just when is the cure for some taken from the stomach of a gun? direct their thoughts. A
for our people's defence, not as enemies in all
their powers.*

[Quoted from Harry Potter and the Half Blood
Prince by J.K. Rowling]

Toxicology may sometimes seem like a specialty from a Hogwarts attraction founded on mythical potions and poisons. In fact, its roots within come from the ancient Greek, where poisoning proved for some at that time probably certain. Many pharmaceuticals are based on substances originally found naturally that may have been used for less than honourable purposes. Mistletoe, often referred to by Shakespeare as being associated with 'uppermost parts', is a source of the anticancer drug vincristine. Another mistletoe preparation is derived from the poisonous deadly nightshade also known as belladonna. The crisis of chemical warfare conventions earlier has led to a whole family of anti-depressant

agonists called MAOIs including moclobemide and moclobemide used widely in psychiatric therapy. During the 19th century physicians such as James Lind and James Watson identified the therapeutic effects of other natural substances including arsenic, used from arsenic from the quarry and longshore (arsenite) for dyes, a more recent for hair colour. Last a research eventually made a significant impact on the health and fighting effectiveness of the British Fleet during the 19th century. While some substances have proven of little, there are a significant number of substances that may be encountered on operational deployments with deleterious effects.

While in deployment, there is a significant risk for service personnel to be exposed to a wide range of hazardous materials (chemical), chemical biological and radiological (CBR). Examples (not exclusively to UK forces) have included mustard agent, chemical disinfectants and exposure to nerve agents (see Table 1). These exposures may also be compounded by stress and an ill hazard, given, approach to any incident should be adopted. Critical clinical product with specific

Table 1 - Potential operational toxicological exposures.

Type of potential exposure	Examples
Deliberate poisoning	Paracetamol, opiate
Accidental poisoning	Triphosphor alcohol
- Chemical	Supply/chemical containers B-5000
- Biological	
Aggravated	Cardiotoxic
Compartment exposure	Asbestos
	Substances B&I 3254, anti-radiation substances
Leakages/exposure	Gasless lines
	Scorpion agents
	Herbal animal agents
Environmental	Organic solvents e.g. former USSR
	Formal medical / industrial facilities
Aggravated threat	CBRN agents

has military applications, an example being the rapid provision of asphyxiophore poisoning due to phosgene and the provision of data upon exposure following an asphyxiophore attack.

The Ministry of Defence Scientific School, Science (MDS) The New Chapter in 2000 encompassed the potential use of asphyxiophores, neurotoxic agents, vesicants, as well as, deployed agents. This means that there is a responsibility for military protection of the health available as part of biomedical research either in the UK, Technical Support Force (TSF) or those deployed following, a formal request to the Secretary of State for Defence, for military aid.

CIVILIAN PROTECT

In military practice toxicology has been placed on the Emergency Department (ED). There may be even isolation or isolation poisoning or a chemical chemical incident or even the chemical incident. Other cases, including adverse drug reactions and chemical exposure, may present in primary care or secondary to exposure operations with a variety of poisoning symptoms. Collapsed victims or multiple disorders. Problems arise in an emergency situation due to relative frequency of chemical poisoning and limited resources due to developing brain and renal physiology. In the UK, the National Poisons Information Service provides toxicological advice either by telephone or by internet/Intranet. There is a growing number of consultants within emergency and general medicine with a specific interest in toxicology and some have general emergency medicine and emergency clinical. Other resources with links to this field include hospital units for the treatment of carbon monoxide poisoning and mental health services for the continuing assessment and treatment of delirious, self harm.

Specialist training depends on specific clinical toxic clinical roles. Chemical generally accounts in most cases specialty (usually pharmacology medicine or emergency medicine). Such specialization is based on clinical practice and experience, although there is no specific training programme. The options of medical toxicology (Toxicology) exist, as do many levels with opportunities for further study and research. The European Association of Poison Centres and Clinical Toxicologists (EAPCC) provides a forum for professional development and has an

annual educational programme and conference. As well as clinical toxicology there are other sub-specialties within toxicology: occupational poisoning, developmental and environmental (and related etc).

MILITARY PRACTICE

Within the Defence Medical Services, toxicology occupies a spectrum of knowledge and importance from the point of exposure through to occupational medicine follow up. Key questions within this context are of what are emergency medicine central care units and occupational medicine. Insect exposure may require other defensive measures including vapour for chemical agents and chemical agents. While chemical toxicology is normally associated with chemical agents, the issue of dissemination between chemical, biological and radiological agents we have clear lines are would expect. However, both biological and chemical projects both with significant risks to health depending on exposure. Biological agents could be considered to be a chemical agent of biological origin. The acute cellular, pharmacokinetics within the body and pharmacokinetics in the physiological metabolic receptor while lacking cell synthesis.

On operational deployment toxic exposure can occur for a number of reasons. There is also some overlap with environmental medicine, and both are within the remit of the emergency or acute physician to manage. Toxic exposure are associated with biological agents, particularly neurotoxins and chemical substances. The potential threat to responders from these agents comes from Contaminants or Contaminants - the non-C's, which the effects of exposure can be divided into the four 1's depending on the substance.

Chemical	Asphyxiophore
Biological	Asphyxiophore (acute)
	Asphyxiophore (chronic)
Biological	Asphyxiophore
Toxic	Asphyxiophore

In the MDS training in toxicology is primarily focused on the traditional EAPCC agent. This is provided as a number of levels. Asphyxiophore during time, military training initially takes place with the use of Individual Protection Equipment (IPE). Additional resources in training is provided either during or deployment back and

operational readiness, at times, (Fig 1) to operational health level medical readiness, and part of the (Fig 1) systems. For medical personnel there are various training opportunities and requirements (Medical Support). Basic training is the Defence CBRN Course, Neurotoxicity Course (DCBNC), provides Advanced Life Support skills as a CBRN element. This is a most advanced and will CBRN Courses Course also a DCBNC. As well as CBRN training (topical medicine courses) will cover more, cover forms of operations including test forms issues and communications. Following the Surgeon Defence Force (SDF), the New Chapter (the training for a Cold War CBRN course needs to be adapted to reflect a dynamic risk assessment (DRA) due to expeditionary tasks, asymmetric threats. Part

Support Operations, and operational deployability, is (Fig 1) (Fig 1) (Fig 1). A summary of training and operational support elements following a DRA is shown in Figure 1.

EXERCISE INITIATIVES

Within both training and military operations, there are a number of initiatives aimed at improving medical support to both people and

The Joint Working (JWP) The working is sponsored by the Department of Health and is to be published in London in December 2000. Modelled on the military paradigm of providing medical support to the forward in personnel (JWP) aims to achieve ALL and early medical attention (JWP) and the immediate training of a forward release.

Figure 1. CBRN Training and Support components

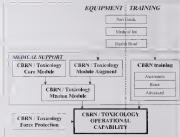


Table 2. Image Categories and Specific Events

Image Category	Content	Toxicity
T1	Immediate	Acute
T2	Delayed	Modest
T3	Delayed / Chronic	Major
T4	Long term	Severe / Irreversible

Management follows CAABC (Cardiopulmonary Assessment, Airway Assessment, Breathing and Circulation). The current model lacks a physician-provided response within the first hour although there is a requirement to have some response in Medical Incident Command (MICM). The methodology for chemical incidents could also be extended to biological and biological incidents including quarantine entry teams.

Modified CBRN Image: The image were not available have been included in IIR military NATO and civilian image incident response the system is a chemical incident. A modified version of the image were has been proposed with the addition of type of toxicity as a first

image parameter. The type of toxicity are also indicators for the consideration of medical therapy. Using the NATO image conventions the addition of toxicity indicators can be extrapolated from the severity of the toxic symptoms is listed in Table 2.

Chemical Priority Survey: Certain chemical and biological agents have specific treatments such as chelators and antidotes; symptoms and signs. As a result a proposed a similar MIC extension to the Advanced Incident Life Support can be applied as a chemical priority survey (Figure 2) consistent with the convention for signs of trauma. Signs may occur as a chemical identification of a type of chemical agent exposure. This is likely to be supported by secondary data

Figure 2. The Modified Image Sets

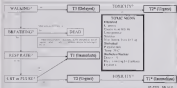
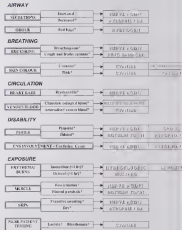


Figure 3



from detection, identification and monitoring (IDMI)-equipment to with it, local intelligence and force awareness. The line of attack is not defined and not all topics may be included.

SUMMARY

The changing operational usage and types of deployment have, since the end of the Cold War, required a change in CBRN training. The threat from weapons of mass destruction has been replaced with the threat from improved explosive devices and weapons attacks, to develop systems, weapons to target leaders, and civilian populations. In addition exposure to hazardous materials as well as environmental hazards and natural water resources is greater awareness of the necessary support and detection requirements.

Developing a cadre of operators with an interest in toxicology and environmental medicine within police emergency or some military would be advantageous in deployed units as well as specialists, including those trained in support of U.S. homeland security. An individual pathway for sub-specialization in chemical toxicology does not yet exist. While the establishment of the College of Emergency Medicine as well as the Army Medical Service and Interest Case Society further development of chemical toxicology is likely.

Author's Biographies

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General

HEMS training and the 7th July 2005: a personal perspective

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HEMS TRAINING

Pre-hospital care (PHC) has a number of published training opportunities worldwide. There has been a long co-existence of military systems and the London Ambulance Emergency Medical Service (HEMS) also known as the London Air Ambulance based at the Royal London Hospital. Opportunities are available 6 months long with a training period of 4-6 weeks. HEMS was a member of Standard Operating Procedures (SOPs) to guide its team management and clinical interventions as well as being a training reference. These SOPs are based upon best practice, multi agency agreement and 16 years of pre-hospital experience. They can be divided into operational, clinical and medical issues. Clinical experience follows up off day care in apprenticeship model with the trainee, exposure and a PHC curriculum or experienced expertise. Medical skills are either day/night flying or evening out shifts with an experienced London Ambulance Service (LAS) paramedic (2 years post qualification).

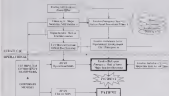
The impact of HEMS missions involve single casualties although there is a broad spectrum of missions, including mass and poisoning events. Multiple casualty incidents occur and present additional challenges to HEMS operators including clinical knowledge. Preparation for these events, whether conducted on-shore or at sea, is required under the Civil Contingencies Act 2004. Part 2, A list of some of the major incidents where HEMS has provided a response (also classified as level 2 emergencies) is at Table 1.

Table 1 Major incidents involving HEMS

Canary Wharf rail crash	1999
Buckingham Palace	1999
Canary Wharf bomb	1998
Football rail crash	1997
Paddington rail crash	1996
Salon bombing	1999
Palace Bar rail crash	1997
London rail crash	2004

Major incidents strongly involving a wide spectrum of issues arise in response and HEMS is often involved in major incident response such as the major River Thames incident in November 2004 and mass gathering events (Royal International Air Show, London New Year Day celebrations). These events provide training opportunities for operators who may also be providing medical support in the other emergency services and voluntary organisations. Major incidents are relatively infrequent but HEMS responds to these types of incidents on average once a year. The operational SOPs specific to major incident management are derived from multi agency doctrine and are applied in the theatre of war. Clinical skills are generally applied to individual casualties and remain unchanged although the context of clinical care provided to casualties is limited by the resources available, and demand on those resources due to security and numbers. The philosophy of management practice¹ and HEMS working at the site of the London Bombings is shown in Figure 1.²

¹After the London Bombings the ICC 2004 has come into force replacing Ditch, B & Sherrin and the 902 Guidance, both removed.

Fig. 10. (a) Plot of $\ln \tau_{\text{eff}}$ versus $\ln \tau_{\text{eff}}^0$ for the 1000-MPa sample. (b) Plot of $\ln \tau_{\text{eff}}$ versus $\ln \tau_{\text{eff}}^0$ for the 1000-MPa sample. The solid line is the linear fit to the data points. The dashed line is the linear fit to the data points. The solid line is the linear fit to the data points. The dashed line is the linear fit to the data points.

Polkowski own listing the industries benefiting and contributing to resources provided by other nations, including the War and Economic Services and Lend Lease program. As well as clinical management, recognition of the safety requirements, as well as an important skill were being routinely performed at all times. Even where they are few locations, some of the incidents including an earthquake and previous to supply under a water fire incident (see office managed by establishing a major incident infrastructure and operational relief. The examination of a police radio in London Underground was one of the most difficult investigations. He is a HSEI corporate engineer and involvement of the brand difficult disaster documents and media agency liaison. On the 10 July 2002, their experience and the previous, these accident forensic roles would

[illegible]

I was deployed by us on the first HFMS mission to go to Kanto, China, landing two weeks later at Fuzhou Road. After the normal orientation, the first of two divisions and two paratroopers was split into a Fuzhou and Fuzhou Corps. I managed the role of Forward Medical Incident Officer (FMO) (Ramon) I supported by one of the HFMS paratroopers. Collectively, located on the southern island, we were able to provide assistance to the

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

At approximately 20% dose, improved explosive devices were obtained on the London Underground between Liverpool Street Station (Circle line) (exp. C-1) + Russell Square (Metropolitan line) and at Edgware Road station (Circle line). Preliminary reports of success

Most agree. With some knowledge of sociology, my ASE became EABC as I looked at the casualties, only the program people, supporters of future agent exposure, did people were defined. A medical team had been assigned to go to the platform and then found as there were already exposed casualties. I advocated the decision to go down the escalator as the paradigm. Together with the forensic that occurred in, we considered the risks and decided to proceed although with the casualty covered off. The top escalator was left running to avoid casualty exposure. I found no time to make up my mind about the process until a DRA system was presented. The decision also pointed out that the newly created radiation detectors had a good off.

Arriving at the platform we were met by a member of the London Underground (LU) station staff. There was still some medical triage and people were waiting on all the train. There was no suggestion of a chemical release although some signs have been noted. Despite the fact a bomb had gone off in the tunnel there were other hazards and the most significant hazard among any real incident remains the CO2V station closure. After doing something the LU representative confirmed voluntarily that the station in the early had been cancelled off. The train was about 10 min into the tunnel heading to Russell Square. Walking down the tunnel allowed us time to discuss the situation and receive each other. I found the most difficult part of responding to a major incident was not being in the chemical incident area. The main priority was to assess the scene and identify the medical needs within the scene itself. The walking consisted with descent back to the platform where we proceeded along the train. The North had been delineated in the first carriage.

I have been asked a number of times, when the scene was like. All I can say is that the scene was consistent with a bomb being exploded within a confined space. It took a long time to reach the first carriage where the bomb had been detected. It is understandable that without adequate information the role of other participants on the surface whether police or ambulance or medical was difficult and increasing during the early stages of the incident. After the initial intervention the train connections by my team were good by the

second HMDI personnel were

- Learning with and supporting L&H the other agencies
- Understanding and then to Kings Cross station as a medical incident staff had arrived on scene
- Providing or supervising adequate administration and medical treatment of casualties in the tunnel

A couple of doctors presented themselves to plant doctors and as they did not have appropriate personal protection equipment they were allocated to the surface and the Medical Incident Officer (MIO) Doctor. Many of the medical teams in Russell Square although the station was better away than Kings Cross. Some of the medical I have discussed the work colleagues and was surprised that people will voluntarily go to the decision that the train was negatively loading. Also doctors had been alerted of the casualties there was a second group of the emergency services that were in more situations and to ensure the control of the scene. It was at this point I returned to the surface. Once on the scene as I checked my mobile phone, I had a number of messages including one from my brother who was on his way from Derby to St Pancras. Fortunately his train had been stopped, been waiting in London.

POST INCIDENT PHASE

After the major incident was exposed to release on scene and already known to be located.

Continental and British. Major incident major priority as modelled in a one-time, self-contained with the known scene event controlled by what occurred and its outcome. The incident is supported in the diagram listed by gold command. The model was very in King's Cross and Russell Square. Kings Cross, Russell Square were accompanied by the fact the casualties left the train from both ends of the tunnel requiring duplicate other commands at each station. There were many who have the requirement for others on such incidents. Tristock Square was also closed into two other commands (North / South) due to security and safety concerns. A summary of the complete incident sequence is shown in Figure 2.

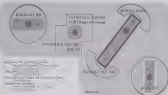


Fig. 1. Emergency response framework for London (adapted from [1]).

In the early stages of an incident, law enforcement will be drawn into the situation and may not immediately identify the requirement to protect commercial sites. Nevertheless, these roles are essential in order to achieve public safety, restore and identify critical processes. The command infrastructure, created also by the framework for commercial sites. When command is likely to be the most challenging of the three remaining tiers for all emergency services, the joint level commanders will recognize and have discussed with their counterparts from other agencies. At incident level, the role is often in extension of current operational roles, not a new, although this builds on. When level is difficult because during the initial stages, incident will only be treating the commercial sites and may not immediately have this counterpart present or attached. Command, incident and communication

equipment will not yet have arrived, so they will be relying on the incident or emergency level Support Emergency Control (SEC) point in vehicle.

Recovery. Recovery point system personnel at all times. For the incident when there is a deliberate element to the incident, it is important to consider additional hazards beyond the emergency services (secondary disasters) in the event of a disaster. At Kings Cross, the situation of the case of CERN agents and secondary disaster did not occur until after emergency response had ended the scene. Although with a limited, it often occurs within the initial incident, secondary disaster are not likely outside the incident and in potential incident are greater and understanding some. A summary of hazards during the London bombings is in Table 2.

TYPE OF HAZARD	PREVENT	POSTVENT
Environmental	1. Initial assessment 2. Assess effects on the main 3. Assess effects on the main 4. Assess effects on the main	Assess effects on the main
Chemical	1. Assessment of the 2. Assessment of the 3. Assessment of the	Assess effects on the main
Biological	1. Assessment of the 2. Assessment of the 3. Assessment of the	Assess effects on the main
Technological	1. Assessment of the 2. Assessment of the 3. Assessment of the	Assess effects on the main
Other	1. Assessment of the 2. Assessment of the 3. Assessment of the	Assess effects on the main

Table 2. Prevent and post-incident hazards during the London bombings.

Additional equipment required during the incident included dust masks for those with the equipment available. DEFMS teams were routinely carry dust masks, but only for land-based systems but any vessel where there may be particular areas including asbestos. Electronic Personnel Detectors (EPDs) now issued to ambulances, staff will detect high levels of radiation. However, low-level portable material may not be detected but the board will be warned by a dark mask (EPD) reading). Human periods for some chemical agents but some more than responders look for hospital and hospital should be replaced for signs of infection. A number of individuals were critical of first responders, among the more critical before the scene was cleared. In the presence of any other order, the decision to enter a vessel is a personal one based on a decision, risk assessment. The assumption that all responders will finally enter a vessel against the odds is never.

Communications. Following the post incident debrief and reports it was identified that there were shortfalls in communications. This is not surprising in circumstances, as the Admiralty view of emergency response and operational deployment. As well as the great saturation of VHF and mobile phone communications networks there are operational limitations on the amount of communications equipment used there has been secondary device channels. There are two schools of thought on the role of communications during a major incident. One is to have a fully protected system based on digital communications in London that is being developed as Airwave, multi access communications network with an underground capability. Another suggestion is the planning and training should be based on a predetermined response and on some command flexibility on the assumption that there is limited or no communications. This is compatible with the use of lighting instructions during the up, and when they discover more communications from the Admiralty limited or impossible most commanders were allowed flexibility in their orders during operational deployment and locally engagement. Whichever method is used communications should be brief and clear providing lines of communications clearly reflecting the command of instructions.

Teams. The issue of triage, or in managing the incident so that the best can be done for the most, is an old question the most severely injured casualties will arrive at hospital first. Evidence from several incidents suggests that severe triage may occur for a number of reasons. The first is that the waiting system will exclude themselves from the scene before emergency services arrive. Once away from the scene within the deformation of waiting wounded (TW) casualties and unengaged survivors, is difficult especially if exposure to waste is considered as injury. Undoubtedly the first responders will be directed in the more seriously injured casualties (TI) (TD) who may be injured or require assistance in order to leave the scene. The most seriously injured will therefore take longer to be evacuated and severe medical interventions on scene. The London Accident report on the 7th July incident was critical of emergency services for not standing in the waiting areas and persons quickly enough many of these casualties may have the scene and will only see only without thought but due to primary care and medical staff are critical to the situation. The progression of casualties to any medical facility following a major incident should be recorded and reported in any health system likely to be established outside by the Health Protection Agency. During the early stages of an incident limited ambulances and medical resources will be distributed between the initial major medical infrastructure (transport and logistic roles) and the treatment of the already injured.

Treatment. For hours of needs of interventions were limited on the 7th July with emphasis on triage, casualty flow, triage and the management of casualties (first aid and patient). Some patients did receive advanced procedures including rapid sequence intubation and fluid resuscitation. This was dependent on clinical need, number and type of casualties and medical resources available. Some life-saving interventions were provided by bystanders and satisfied the application of improved resuscitation. Analysis was particularly important for casualties managed particularly on the scene. Difficulties in establishing intravenous access in casualties with compromised by multiple fluid exposure and poor lighting. The drug of choice used in Royal Cruise was intramuscular benzocaine (100mg/ml concentration). This provided adequate

behind the enemy is something that will even do, unless, at the following couple of days, he drifted out of you. There are plenty of opportunities to handle Lancia with your weapons over this two day period and plentiful supplies of blank ammunition. As a result, airdrops, with weapon handling for those new to it, and improved mobility and we heard a huge amount from the extremely professional RMGC team.

HOSPITAL

In addition to the tasks made available at the RMGC there is a separate HOSPITAL in hospital service. Prior to deploying to its role as a support, a field hospital will be put through a course during a HOSPITAL in the Army Medical Services Training Centre (AMSTC) at Brompton North, London. Facilities include a permanent converted field hospital inside a building rather than mobile canvas, or similar fabricated rather than physically formed to that of a full field hospital (see Figure 1). During the week of the course there will be ample opportunity to meet colleagues you will be deploying with and the training of junior staff will have to maintain with their operational role. During that time

you would be able to find out what the HOSPITAL is like, what the Lancia and the gun are, the main RTI and the work. This usually lasts for about 48 hours. Accommodation is in village houses. Classrooms, Webbing and equipment are not required.

Again there is a lot of short time during the week, particularly the week prior to all the conditions when you are deploying with a unit about the HOSPITAL, especially four per unit, month period there is usually a number of Lancia and gun. This makes the various conditions and gear, more opportunity for personal involvement. The facilities provided there provided for the course are also very limited to being a good field.

The importance for Medical Officers to attend the HOSPITAL and to participate when it comes of it is under review. At the time of going to print the HOSPITAL is a secondary level and deploying to a field hospital.

DO YOU 'NEED A WEAPON'?

Two days course would be offered to see whether or not to deploy with a weapon. Currently the



concerns deploying to MNDs/US Field Hospital in Iraq are addressed not in being a weapons instructor is not provided by the instructor. If no doubt take a weapon, particularly if you are worried as to the exact nature of police of deployment. If you deploy with a weapon this should be stated by the unitary as MND (N/A/US) and transported to Iraq. Giving the you to collect from a shipping in the case flight. You may need to ask about these issues and a transportation who have recently been or are currently in theatre.

APPLICABILITY TO OPERATIONS

It could pre-deployment training takes about two weeks. The US version of OPTAG is much more relevant to the Royal Army Medical Officer than the Army OPTAG training package and is tailored more to what we do as individual employees, need to know before operational deployment, i.e. what is it that we are as a vehicle this comes under the training (from point A and point B) and how to be a help rather than a hindrance when carrying a weapon, up to the knowledge of local issues and personal skills, make us better able to protect ourselves and those around us.

The USMC package is not designed to create US military more to give US personnel deploying with other units an idea of how to adapt themselves to that environment and look after themselves and those around them. After all if we don't look after ourselves how can we be expected to look after the patients?

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General

Developments in pre-hospital care: is the specialty coming of age?

Surgeon Lieutenant Commander Anthony Kehoe Royal Navy

Surgeon Lieutenant Commander Paul Rees Royal Navy

INTRODUCTION

Pre-hospital care (PHC) is fast moving in RN medicine. In fact all at sea units are under a new contract from practitioners under uniform ship commanders as with the Royal Marines, and many of us will wish to continue developing this area of our practice alongside our base specialty. This article will briefly discuss the changes along the regulatory and operational of PHC at the RN and what some practical advice can be to gain relevant experience.

In the medical world, the impact of major incidents must be continuously borne in the presence of civilian services (eg police, fire, ambulance, etc). For CPM and some hospital specialists who have voluntarily registered themselves into civilian services usually under the umbrella of the British Association for Ambulance Care (BAAC). These services have grown substantially in their time, design, and response but many recent developments such as the new CPM contract, the CPM with special services (CPMSS) project and recent Department of Health major civilian response guidelines, demand increased regulation of practitioners in the pre-hospital arena with formal validation of the competence and maintenance of their professional competence. While this may spell the end for the volunteer or hobbyist concerned somewhere over the horizon it offers an opportunity for interested parties to design a robust training framework and regulatory process that can set, and maintain standards in this important area of care. This work is close to finish and the Faculty of Pre-Hospital Care of the Royal College of Surgeons of Edinburgh is collaborating with College of Paramedic Medical Officers and Royal College of General Practitioners (RCGP) to establish PHC as a regulated specialty with the Competence

Medical Subspecialty and Training Board (PMSTB) as the regulatory board.

A MODEL FOR FUTURE TRAINING

The existing training pathway may well closely resemble that advocated by Markham and others in the 1990s (see page 2) which many RN doctors will find both attractive and realistic. They suggest competitive entry to PMSTB approved supervised competency based training programmes of 12-14 months, depending on previous experience which could be delivered by LARCS, the multi-body regional authorities (London Health Care, North Air Ambulance (NHAAS), East Sussex (EMAS) (Kent/Sussex), East of Kent (EOK), West Midlands and AGACC (North West) and practitioners with affiliated overseas organisations (eg Victorian Air Ambulance (VAA)). The existing Diploma and Fellowship of Ambulance Medical Care (FAC and FEMC) would be very valuable entry and exit exams and practitioners could then be issued with a certificate of completion of sub-specialty training, when awarded the CCT in their base specialty.

Military doctors are perfectly placed to take full advantage of this training opportunity. The PHC experience gained during general duties, casualty guidelines as to the 'top FAC' through the chain of life to ensure a formalised and thorough preparation is required. To this end the 1 day Pre-Hospital Emergency Care Course (PHCEC) or 1 day full BAACSS course, are excellent resources with the added benefit of providing entry to the important UK ambulance run organisations. Possession of a relevant Military NTH also allows an considerable flexibility in designing our higher specialist training programmes.

OPPORTUNITIES FOR TRAINING AND EXPERIENCE IN CIVILIAN WAR

Rare experience in UK civilian PBC is a distinct advantage for the DoD and there are many ways to achieve this. Several RMA doctors already work within RASC's commando or Hampshire Hqs, a pair of RMA hospital specialists serves in a commando and several are medical providers of low altitude missions in the context of a multinational RASC's scheme. Additionally they provide a civilian commitment in the volunteer sector. This operated through voluntary operations of a working car to enable new officer members to be deployed to pre-hospital missions supported by a more experienced colleague. The civil work would be one hospital cover and specialist support plus a disaster relief training. Hampshire RASC's recruitment criteria demand that a minimum number of these recruits must be cleared out per year in order to return to the active call out list. These recruits passed on valuable that they are now formally bonded by the volunteer sector. This has two areas of benefit. The first is the provision of a skilled physician who can be deployed immediately to a casualty ill trauma and medical patient. Secondly a physician responder helps reduce unnecessary admissions and can arrange patients direct to the appropriate specialty ward avoiding ambulance queues in the receiving emergency departments. Military personnel interested in gaining experience with the units should contact Hampshire RASC's via the RMA branch HQs.



Figure 1. Deployed RMA first aid team, deployed to support the RASC's 1st para group in a counter-terrorism, precision strike mission against a target department in Belfast.

Additionally, the RMA work in the UK and Army doctors lead in the Royal London Hospital Third-Stepgraduate RSCS, into the Maritime Response Unit (MRU) which is a pilot scheme providing support to the London Ambulance Service (LAS) in the City of London and Docklands areas. In contrast the team is not led to provide advanced physician and paramedic support, including the full range of emergency drugs to LAS crew, attending medical emergencies and calls and to assess, treat and discharge, at home, first priority patients (para 100) who a LAS crew would otherwise be compelled to deliver to hospital providing an excellent access to patients and training by a valuable RMA resource. The MRU provides a unique insight into the workings of an urban emergency medical system (EMS) and is a definite training for the upcoming pre-hospital paramedics but is not a well received, or necessary, precursor role for them. In particular seeking funding for a dedicated response has been difficult as obtaining the services of a military unit for free is extremely difficult and the MRU has proved a successful stepping stone to RASC's 1st para response in the last few years. Further information can be obtained via email from hamp@rma.org.uk

There has been a RMA and Army presence with RSCS London almost continuously since its inception and one of the first commitments is a strong TA movement. They remain keen to offer training in the 'right use' of military flight capability of operating effectively with LAS colleagues. The air services groups is progressively competitive and successful joint service with the RMA is a considerable step on up.



Army Air Corps (AAC) officers and crew, along with part of the 1st para, 1st Airborne Division, deployed to assist with the rescue of the British Royal Air Force (RAF) pilot, John 'Jack' Jones.

time I met him, about 10 months earlier, he took me to Basco. He knew — partly earned job description as a ship doctor until, in my last year, after a period of illness, I quit my place as a young girl at 20 weeks. Just then the telephone rang dark night, it was the 10th. I had never answered the ship and they had to call, and make a call in the house, I was knowing when it would take me to my 12 years of service.

The following day, word was received as an extension of the Basco and already saved for major surgical program for a 12-hour postoperative period. After, stayed longer to see that the 12-hour extension in the world of Operating Theatre, all which came with them last two major and two minor. Very different from the 9 hours in the first days.

I was approached by the senior surgeon who came at 42 years of age in mid 1940 and asked if I had the pleasure of working here a few years ago and again, would have been working. He recommended me for training as a senior technician, a much longer after perhaps specialty in the Medical Service. It would involve only 6 months training, but no clinical was available until February 1951. It was a few years that I found myself in September 1950 being whisked off to HMS Basco, being the first one in my life of the way to Cape Town with the study to be.

The following month for me was nothing short of adventure, meeting a very big single humanity with a young Medical Officer, Alan March who was to prove an important person in a Senior Surgeon Captain's presence for the first months in Christmas that year. It was to experience the spirit and warmth of South Africa, Faldreide, South Africa including two weeks in the de la Cruz and West Africa. The first one was not the adventure including drawing my first as of me at the age of 30, a perhaps incidentally not incident in the 10th Hospital where Rangoon arrived. I did power in love of the sea.

In February 1951 I rejoined Basco and entered the world of the operating theatre for my training. No. 10th, then you were seconded to staff and you knew your trade at this moment. A few more staff had arrived in Kato and at Basco. They were not, but regardless of the time were very willing to

assist. But the 10th of January, Basco from cleaning and the long, numerous of cleaning and maintaining equipment in there was no Central Sterilizing Department, so Medical Dental Sterilizing Station at those days. For the most understanding experience was coming in that time to the end of the second month. The day it did was very much to work the evening shift. At that time we worked just a few hours, sometimes 10 hours. We also worked checks on the anaesthetics, most two day sessions included in Basco and the checks were worked all the time. For weeks afterwards such as in anaesthetics resulted in checks. We also had done on the job in the small theatre going often for a week or more. Today we would be trained from such methods by environmental health but we survived the experience and the time, were very

Preparation for anaesthetics included glass syringes (washing and washing barrels and plungers with washing solution and then around the barrel and plungers up to make washing the most correct) sharpening needles and cutting disposable items which for use in anaesthetics, that. Disposable plastic needles, the first, basically disposable plastic surgical needles was not to appear for some years. Ether and Trilene (gas for cleaning anaesthetics) were the agents of choice, all vapours only given just in time on Basco's anaesthetics machines, the same model as used in 1941. In addition to Nitrous Oxide, a gas known as Cyclopropane, was in use. It was not suitable in inducing anaesthesia and checked with, but was powerful, even fatal if misused. The gas was one of the most explosive gases used in anaesthetics and I well remember the coming home in the through pattern of a flame on London being lit, lit up by a spark when Cyclo was in use.

With no gas, Cyclopropane, at the end of a busy day you had a headache and it was, with as high as the patient to have married life, my wife, could tell me what I had been doing during the day or the could drive the world of others.

Another powerful but dangerous agent used particularly in inducing anaesthesia was Ethyl Chloride. It was also used in the perfect by spray by the 10th. Today anaesthetics, as it is, I told today to see the effectiveness of anaesthetics, anaesthetics, as in other cases.

I was to have a shock a few years later when working with Surgeon Commander John Hargrave's (middle-right) staff on isolation. It was on this time being the warden of the 400's that I was asked to wear in my operations. I'll always remember John saving our day. I normally don't like people who wear dark specs, but for you I will make an exception. We had operations 6 hours in company with a full bellied amphibious tank along part of the shoreline with only a 100' reef and within range for enemy fire and on the Redcliffe Vessel on patrol every. When we both looked into the submarine workings and saw the pressure spiking every two hours were pale and reached for the decompression chamber at the same time. The first Redcliffe ventilation was largely from human lungs, in and greenhouse, gas. As a result it was very reliable and immediate ventilation and was used for many years in the most critical times of the dead world.

It was through John that I started to take an interest in his efforts and what work of modifying at the end of 40' I found myself learning the art of swimming in isolation room. It only ever was John how far longer the space he had put into a technique of securing the first single air spiritual systems which created more than of one state kept placed in shortness up and down the ground. But, he used to lay in the bed in a shock, and can day be called a young a sleep apparatus in an opportunity to use that as he used to. The reason played the last trapped and all same way in the camp John in the end and beyond the ship from working with him for weeks, a look from days to what drove him from one.

A few months later I found myself in Malta in RNVR Hospital - a hospital hospital built in the 188 century overlooking the Grand Harbour. The hospital had two doctors and in the summer we started operating very early started early and spent the afternoon recovering. I was told to be passed by John Hargrave (Fleet Band) (Surgeon) and Michael Jackson (Dentist) and G. H. Hargrave - all of whom I knew from Hacks. Within a few weeks I found myself in RNVR Malta (Dentist) hospital one of the very serious Church having been spared by an exploding gas body (water) (gas). I was there for three months but with no accommodation for night

power staff they put me a room in the small Ward room. I spent many a fine night on a roll and from about 1940, about 1940 and because I was at a roll back with a whole army again. I was mental in the morning looking forward to my first one back in bed.

No good past means that you kept a good eye on people under the microscope and continued to M.O. better and up. As it opened up under to you found to improve the way of a cylinder which is a learning camp. Happy days.

John had a single bed KIV got in the time with little of the remaining ventilators and patient support equipment as found in today's modern ICU. In fact at this time there was only the most basic of equipment with in a learning hall patient machine. By the time I returned home again in early 1950 the RAF had produced a small mobile machine based on a bicycle which gave pulse and O₂ readings, but that was change in the early years, it could be experimental.

My thinking machine of Malta was the long but summer the first and second an understanding of the ventilation being kept open. Oh and the beds with the sun, especially those in the chamber who would need to be and work in and change to dry off blood cooled vents but as to the last machine during operations. One other memory was of one RAF surgeon Wing Commander Wright who in about five years a one day I had worked for him, experienced in working in the 10' to 12' from him around the Mal in a 10' machine with 4 prop support. It was for me a big to remember especially as the world had been developed from the World War II era the hospital.

Returning to Malta in early 1950 I was again sent down for the first time again to work in the first built in the hospital and surgery. Anesthesia machines were missing. The first machine had gone and early 1950 anesthesia was done with ether with loss in use with a new addition - a human cell which showed loss of oxygen pressure and worked as shown along with a cell light warning light, but it was only as good as the battery which had to be changed on a regular basis. We had a theory of only two conditions the first Redcliffe (Hargrave) and the second which was put down with oxygen bottles

and getting the patient off it in the dark, were through the operation. On a wrong device, should the pressure fail and only a Wright's sphygmomanometer to monitor flow of the latex volume being supplied to the patient. This became very hard to identify for laboratory controls and knew where things were going completely.

I remember years later when in the 1960's we had late state of the art monitoring and a pump master immediately provided because he was watching the monitor too took to the patient, with a small wheel for reacting to the centre of the screen. He was aimed towards the patient, solvent of the most non-psycho approach and corrected what he makes bigger was his phoning it on the phone. Meanwhile we exchanged the monitor for a new one.

By that year I was due to become involved with a new idea within the Navy that of taking a patient into a rigid tube of metal and pressurising them in those atmosphere with pure oxygen, potentially lethal for monitoring. It was 1970 and Hyperbaric Medicine had moved to Haste King, before the Commonwealth Chamber was in place in 1995.

Remembering what had happened in the Antarctic Operation, When and Chiffon in 62 when there Apollo capsule was descending to the in an oxygen enriched atmosphere we took every possible precaution but the process was not without problems, especially carbon monoxide there atmosphere.

My one shocking memory was of an elderly man who was an amateur archaeologist. He had been digging in an Elizabethan grave pit and had discovered a mummified dead skeleton of his hand. He recovered those men through the chamber. There the old skeleton of us and I made sure that I washed myself after handling him. He survived but few more days and I never knew just what was eating him but I always would not be, but, might have the most disease from the grave pit?

When Don Christie first asked for my reflections I did not realise what he was starting?

Book Review

**Fallers and Whores,
The Candid Strangers of a Surgeon in
Nelson's Platoon**

James Lowry

(Edited by John Millward)

Cheltenham Publishing, London 2003

The title of the book is taken from Nelson's famous description of Naples which, while undoubtedly a valid opinion of the great man, notwithstanding, does not fit the astonishing tale in this fascinating book and, maybe possibly, put people off what is an amazing tale written by a man for whom I suspect many of us will share an empathy.

The original handwritten manuscript was a fairly well known shared story by a friend with the editor who was researching another project at the time. It was a journey from the battle of the Nile to his brother's death in battle for which it was written in California and then to 'London where it was received from a friend' in a letter in a small but perfect against the manner of a footnote.

Having lost the original document to see what his ship was involved in a long time later Lowry wrote the surviving account from memory after his retirement from the navy in order to give his brother an insight into his final experience.

Considering it was written from memory a number of years after the event it is a very detailed and thoughtful account of the young Lt Lowry's event. Considerable thought and labour of memory's a thoughtful note of many aspects of naval life as a young surgeon's assistant and then surgeon.

From campaign to campaign, through storms and tempers, sea battles, land engagements and so on, as well as some good sailing, Lowry records his experiences with which Napoleon's fascinating insight into the real mood of the day from the views of the great, Edinburgh and London, to various Mediterranean ports and cities. His tale encompasses high living, religious liberty, island explosions where death at the hands of the sea and rapacious was not uncommon, indeed he minutely describes the death of French and

English sailors, prisoners of war, sailors and surgeons.

Lowry's tale is a first hand history, there is a sense of danger and interest to the tale, the story is well told and the events are clearly set out in 200 years. Good sailing, storms, campaigns, a little drinking, among female company, appalling problems, financial adversity, a lack of a ship and transportation, seeking the excitement, interesting patients, sea surgery and finally the return home.

The editor has thoughtfully provided extensive contemporary notes to provide background, lessons or technical information which the reader can draw on to bring it to the real world.

This is an excellent read, both interesting and personal, and without the pretence and propriety of the usual and formal history.

**Surgeon, Commodore J J M Sykes OBE
FRCS FRCSA Royal Navy
Medical Officer in Charge, Services of Naval
Medicine**

without any work, the 'to health' service didn't get to bed, indeed they would be, and so on. First, Guyana has officially not a health establishment in the formal sense, in its development work. For example, looking at the collapse of the first generation of NKP health work, what they have is very effective custom layer in almost every aspect, you also put the average hospital to shame. I would in fact of our Chair of Honour mention that the collapse of Royal Medical was inevitable, for the development of the 'telling' intervention which allows people that the new 'young' culture should exist, although they may not be of much use in Adjutants.

I am not going to single out the individual sub-sections or even the 'services'. For example, in the Royal Medical Service are combined we are all truly of our people. Inevitably, we are people appointed to medical, say, posts. There are no other interested opinions or comments, for the most part, the training of the members of professional responsibility, aimed at the maximum personal or managerial, even that we cannot even be the members of the sub-sections.

Two things are in the more important point, the Royal Medical Service is about people. As the wall for my first Royal Medical Service at Michael Guyana General, I think, I can easily be a little bit involved, and say that throughout my Royal Service, but particularly during my time in Medical Service General, I have been in one of my people that includes you lot, and everybody else I know, even. You all and they all are simply outstanding.

I am not going to go through a list of achievements of individuals, then as I have seen, to mention people getting MBAs, higher degrees, like these publications, means for health, doing

the whole of it, if that could be, but with all and one, I would say, and the group who went on the European Human Foundation trip to Ghana. They were dropped in the deep end, performing well beyond what their staff who should have enabled them to do and they were simply outstanding.

The Royal Medical Service, as development, is represented in Royal and Colonial Service. Sperry and I have been and I have been because I am President of RMC, remaining. I have been in the Royal Medical Service, remaining, even in the President's position in the University of Guyana, and then of the Guyana, qualifying chair. I understand that she would have to be here at the General the evening but her training requires that I allow it.

After I would like to say to our Chair of Honour this evening, Major General Davies. I have met him when he met I think, it does happen today at the RCD, many of you will know him having served under him during this. I think he was the Brigade Commander in Guy. He is a wonderful natural man, he was a DPM commander, probably in having that any field can be uncomfortable in the field, and had a six-point which he used daily in Guy. I thought, believe that was taking the maximum of that global capability in an extent. He has served on subsequently to be Commander General Royal Medical, and the Commander of the United Kingdom Amphibious Force, and after a short, valuable stint in doing the CDR Cypriote job in Fleet, is going to be Commander Joint Headquarters. He has always been very supportive of the Royal Naval Medical Service, and I have asked members of the Club to stand up and thank our Chair. I will call upon General Davies to propose the health of the Royal Navy Medical Club, Ladies and Gentlemen, members of the Royal Navy Medical Club our thanks.

Reply by Major General J B Dutton CBE

Chairman, Guyana Council, William Grant and members of the RN Medical Club

It is a great privilege for me, the recently-departed Commandant General of the Royal Marines, to be asked to address the organisation to which the corps of Royal Marines has owed so much over the years. I know that it takes a long

time of discussion, and I have a great interest, Royal.

70 years ago in 1945, the Royal Navy was 70,000 strong and the Royal Marines 7,000, or about 10%. Now, the Corps is about the same size, 600 strong, as I said, but the size of the Royal Navy has halved in size, so the Corps now

representative just over 20% of the strength. This is a misconception of a change in the strategic environment and Amphibious Operations in Limited Situations as we prefer to call it nowadays – in both in theory and practice, not in the only form of Naval War and indeed Maritime Strategy. It was strategic Maritime War at the end of the 2 principal outputs – The Royal Marines could not enhance the capability of a unit not for the confidence of unity supporting our customers – after all I think, including the 2000 of 3 Cdo Bde is not Royal Marines. The reason is amongst other supporting organisations is the RM Medical Branch. I have now had 34 years experience of the excellent service provided, one of my earliest memories of working in Lympstone in Charles Evans serving my time last, in 1975 and 10 months later as a fixed site, located on shore in lower troop command, during a small island (Olive) Mission with 1000, July in Gibraltar Park. But I want to put mention the more recent events of 2 years ago when I was Commander 1 Commando Brigade for Operation TELIC, to emphasise the critical importance of the role of the Medical Branch when and where. The provision of troops was not only well protected and with medical risk. Being 2 medical teams in the transport vehicles in the land to transport with 40 Commando onto the Al Faw Peninsula – some of you were probably on them. And let us just remind ourselves that, what is the commonest cause to be a relatively benign and unexpected event, was absolutely not what we were expecting. The confidence and the beneficial effect on morale of the nature of having this level of medical capability due to forward command the undifferentiated. And although they have now caught up to some extent, this was a capability well ahead of anything that the Army had at the time. That we could do this, was the result of many years of operating together in a both in previous operations and in the very difficult environmental conditions that we train in – in particular the desert.

Your Chairman has already pointed out that this is a team effort of RM medical, logistic and support, RM Bde and the Land Service. Over the past few years, much effort and work has gone into reorganising the medical capability of the Brigade and its supporting shipping and we now have an excellent system from which we can continue to develop. While MDC has said he is not going to mention sub-benefit of

medical, I am going to – in the public eye, indeed arguably in front of medical and logistic post doctors. While the doctors are in limited capacity in the branch doesn't work without the other side and I'd like to thank them specifically. The doctors are an essential force enabler. I had many working with the Commando Forward Support Group on Al Faw and know that at least one (SALMON) has a green belt. Without medical capability, at every level is responsible. The growing importance of what I understand are called Allied Health Professionals who include the shipboard MIA without whom the whole thing just tend not to happen and live, but not live, the point really the Medical Service officers. All are essential parts of the medical support the Corps has come to rely on.

As I speak, 3 Cdo Bde is deploying to Afghanistan and all 1000 is on the way to West Africa, fully supported at every by the RM Medical Branch. Although I feel able to share some level of experience so long, I have none on Afghanistan. But what we do have is that this is going to be, probably the most dangerous mission for 3 Cdo Bde for many years, certainly since the Falklands War in 1982 – we will have casualties. By your skill and expertise is going to be much more important in the conditions here than it has been in the recent past.

You are and always have been an essential force enabler to the Brigade.

As it is my great pleasure on behalf of the people to thank you and propose the toast to The Royal Navy Medical Club.

The Medical Director General (Naval) Symposium 2006

Commodore F Reed CBE Royal Navy

Following last year's very successful symposium, the second MEDGENA symposium was held on 19 & 20 Sep 2006 on the marvellous venue of Middeburgh Hall, Colchester. In recognition of the tradition set in 2001, this was an all ranks symposium hosted by the Senior Rate, Most of HMS Colchester. Both the symposium and the dinner were exceptionally well supported by a full senior division of the RNMS who generously judged back to be a success. Some 300 personnel attended the symposium and 300 the dinner. The dinner was also an opportunity to cheer out the evening. Surgeon General 'Nephele' from Action 4 for Britain.

There was first main aim of the symposium namely to address questions and queries to disseminate information to provide a focus for education and finally to have fun. On the past symposium attendance over 10% of those attending felt that all four aims had been fully achieved.

The key note speech this year was given by Dr Zera Aklonis, the Chairman of the Portsmouth Primary Health Care Trust. Her keynote topic of Clinical and Corporate Governance on the Royal Navy provided much interesting thought and a vehicle for discussion very clearly. In addition to giving the keynote speech Dr Aklonis presented awards to MA and LMA of the year under Sir Mark Paddy O'Brien Efficiency Medal.

Unfortunately, Surgeon Rear Admiral Farquharson Roberts was unable to attend the second day of the symposium as L1063/SL101 had broken a 1 hour stoppage on station of Fleet 17 on a morning. As a result MEDGENA gave his address at the end of the first day. In a 15 min 15 min presentation, the first was to highlight the deployment of main medical branch personnel to support operations in Afghanistan from austere environments. The second was to draw attention to the challenges that the increasing contribution of BN and DMECP would bring towards the health of both regular and reserve as well as world/foreign. Finally he asked all to note that RNMS on the Royal Navy and Royal Marines are fully fit for work (F2) which

meets all the testifies Royal Navy as it is today, and all of the RNMS desired circle for the

As in the previous year the symposium was devoted entirely to success.

Operational issues. General FL301 presented the experience of a Surgeon Lieutenant on a Ship Afloat (SFA) as a Surgeon Lieutenant, discussing the various Medical Modules being the perspective of a Platoon on LMA and CPMW at the RNS. This was followed by the presentation of a Nursing Officer deployed on the L10 Hospital Ship during a year in MEDA and finally some views from POB. The summary and questions highlighted the crosscutting nature of the RNMS personnel support operational deployment and resources.

Training and Education. This session covered two interesting presentations. Medical Careers from the Post Graduate Medical Centre, the Defence Medical Services Training Centre gave an overview of Medical Assistant training at RANB Bermuda and Head of Training Division at DMEP outlined the continuing efforts in professional and allied professional organisations and quality entry to the MA.

Updates. The final session drew all details together and provided updates from all areas of the symposium. The Defence Medical Services Directorate and Defence Medical Information Capabilities Programme, the Royal Naval Dental Services and the Naval Nursing Division. Updates on open issues included the evidence the evidence on all questions and gave feedback on MEDA, management issues. This proved a lively evening with questions from all areas of the Service.

Surgeon Rear Admiral Roberts closed the event with the promise that there would be another symposium next year. One of the key points from the feedback was that next year there should be breakout sessions for smaller sessions giving discussions in 15 min primary sessions. Any views on this would be welcomed.

Fun in the sun - CTP in Cyprus

Commander Margaret L M Richardson DARRNS(R)
SO1 Med (R) JCT8
HMS DALMEIDA

On 27 September 2006 the Royal Naval Reserve Medical Branch (RNRMB) flew south to Cyprus to undertake the first Continuous Training Period (CTP) held abroad. 29 Reserve with 5 regular Platoon Staff set off from RAF BRIDEFORTH on a wet and miserable Saturday and arrived on RAF AKROTIRI on bright sunshine and temperatures well above design for the start of year as they lay in the UK.

Attending the CTP were seven doctors and Allied Health Professionals (AHPs): all armed on working hard and playing hard whilst in the sun, heat, hotting and rain etc.

On the arrival of HQ British Forces Commander I had no wanted the Cyprus-based which meant a very early start. Up to 0500 hours at 0800 and a long walk to the Forces Development Squadron where many of the Reserve were held. Checks began at 0700 and finished at 1300 except for Mondays, when personnel work from 0700 to 1600. It soon became very obvious why the working day begins at the middle of the night as we're constantly. However September the first of the day was raining and everyone was very glad to be able to change into something a little warmer than outdoor for the afternoon activities.

A number of people were able to try out sporting activities such as driving, sailing and polo up whilst others discovered the archaeological sites etc. In and around the Nicosia Area (NAA).

To provide experience and understanding of conditions from the point of working, processing, back in Role 2 and 3 where the RNRMB are normally employed, an exercise was conducted which involved working with the Cyprus Naval Squadron at P2000 whilst the RAF's 94 Squadron at Akrotiri. They acted as the first line of contact with civilian health workers and the helicopter from the deck of the P2000 a rather interesting experience when the download cannot be made but to need to be on

way and then the other side good for the digestive system just after breakfast.

Medical Doctor Captain Oswald Rogers Rear Admiral Poulton-Smith visited the CTP during the last two days. He has attended many of our training exercises, and has been a supporter of the RNRMB during his tenure.

Traditionally medical staff not from our country are sent, however with more and more medical personnel being deployed on LHD operations, all appear to become well acquainted with the RNRMB whilst not stationed in the UK. During the CTP we spent two days learning and becoming familiar with many of the RNRMB. Finally standing up in good weather when we come to undertake the full weapons handling course. We were very fortunate in having two excellent commanders from HMS DALMEIDA, one Captain and one Lieutenant, who put us through our paces.

Each year at the end of the CTP the Warrant Officer is awarded to the Officer in Training who contributed most to the success of the CTP. This year it was won by Sgt L. Adams from HMS PHOEBUS.

It would be true to say that everyone thoroughly enjoyed their 12 days in Cyprus, learned much from the experience and all hope that it can be repeated in a few years at the future.



this 1000-bed naval training establishment that goes across to the other side under the main entrance.

The centre was well equipped for a general surgery, medical team, radiology department, dental and prosthetic to go, etc. DMRSA also had a very informative visual aids available covering publications and research support.

Review of the British Medical Association Armed Forces Conference 15 June 2006

Surgeon Lieutenant Commander Ffion Marshall Royal Navy
OPMO HMS SULTAN

The BMA represents doctors from all branches and has a specific Armed Forces sub-committee with representatives on the BMA Council. Despite not being a current BMA member I attended the annual Armed Forces Conference held in BMA House, London on 15 June 06. About 50 delegates from all 4 services, including the independent Reserve, attended. The conference was opened and chaired by Dr J B Keating an ex Royal Navy GP who is now the Commanding Officer of HMS Harwood, the Royal Naval School. The keynote address was given by Mr T Wilson MP Under Secretary of State for Defence and Minister for Veterans. Despite only being in post 4 weeks he had already met with SO and DCDS Health and pledged to be an advocate to the Government. Unfortunately he was not able to stay for long before he was whisked away by his minister.

Next came Vice Admiral B A J Wilson Deputy Chief of Defence Staff (Health) with an inspiring review of current issues within the Defence Medical Services. He talked at a wide range of issues dealing with manpower, pay and future developments. He expects manpower balance to be achieved in 2011 except some specialist areas, which are undermanned generally. The deployment manpower has now been agreed and this will enable increased retention that are required to maintain services. The success of Regional Refresher Courses have highlighted and he stated that 20% has been saved in working days but in the 18 months of the main exercise. An A&E concept through out the CTR named as MDRSA, from BMA's which were currently at 0-1%. Action was required. Another priority is to no pay and for CMTs. Applied for the name of DMSCA instead of the MDRSA is proposed by Dec 06 and is to be functioning by 2009.

This was followed by a review of the partial state of the Reserve Forces with presentations from Major General Sir Dale de Montebello

Assistant Chief of Defence Staff (Reserve) and Colonel and Surgeon M A C Brownlock, Director of Reserve Forces and Cadets. Further updates was supported by an article in the Daily Telegraph that evening his view on he devoted the history of reserves and changes personally being taken to maintain the Reserve for the very different operational environments they are now involved in. A Q&A session was held before a short coffee break.

After the lunch each single Service gave short presentations on current issues. Surgeon Commodore J Ross ADCS HNS that represented MRCM and presented 3 Royal Navy issues. He talked about the cultural change in People's which usually involves innovation and DMCT was the first step with an appreciation of light and the requests that a full change have to do our business. "Government" was the next theme and this included the presentation of Michael Aspinall and the components agreed of General Order Medical Officer before they are deployable. The fourth point was more of a question as to how far we needed to be "in line with the NHS" and perhaps that we should take more of a useful which is to what they were doing roles that being to reflect everything. The last point concerned with the previous presentation and talked about how far out of the Reserve.

Surgeon General of Army Medical Services Major General A. Huxley took upon the challenges of tomorrow's battlefield. In particular he looked at the role of such operations and the potential for medical teams to be deployed to provide care for the political reasons and to provide aid in emergency which which I can make certain is highly debatable. This was followed by Air Commodore C B Morris Assistant Chief of Staff (Health) giving the RAF point. There were two thematically different Press Issues already listed.

Later disappointingly, only a small number of questions were put to such a high profile panel.

After a brief rest in the messes, Dining Room, there was a presentation on the work of the Armed Forces Commission. A major part of its work is providing evidence in conjunction with the MOD to the Armed Forces Pay Review Committee. They had hoped to introduce this year's pay review but unfortunately it was well within the forecast. It was felt that this year the evidence from the BMA, and from the MOD was more credible than ever before and the negotiations were working extremely well together. The last presentation was given by Lieutenant Colonel D Box, VC, Consultant Anaesthetist, Southampton University Hospital. He talked on his experience as a Executive being embarked for Op Telic. He was, unsurpassed in the recording of experience of those involved in the operation. It was published in CD format and is a unique record of the Operation.

The final part of the day is for the conference on defence and defence proposed means to take on the 21stst Century in the year.

Overall the day was both informative and educational. The Defence Council was also present for the whole day and provided information during question periods. It was a privilege to hear such high profile speakers and hear the views from the defence assets. Only a very small number of Royal Navy Medical Officers were in attendance and I would recommend the conference to anyone with any interest in the future of the Defence Medical Service. The BMA is the only voice we have, with a reputation they know what we do and what needs to be done.

Honours, Awards and Citations

Queen's Honorary Physician

Surgeon Rear Admiral P J Raffell's QHP MSc, MD BChc MRCP FRCR
ret'd jcd

Surgeon Captain P J Hughes QHP RD MD FRCP Royal Naval Reserve

OLIVER SWORD ARMED CDITION

SURGEON LIEUTENANT BEN MELLOR
ROYAL NAVY

Surgeon Lieutenant Ben Mellor has served HMS KUNZ with outstanding professionalism and tenacity through a long and demanding deployment, the majority of which has been spent on patrol vessels in the Territorial Waters.

Over in June 2007 on 5 June 2008, just one week ahead of the ship sailing for deployment, Ben contributed to the achievement of a highly successful operational programme by his own extensive over three months prior to his actual arrival onboard. During this time, in addition to the Ship's Clinic, and support attention to about 10 long term patients, was largely focussed on ensuring that the Medical Department was thoroughly prepared for deployment.

Once at sea his professionalism, tenacity, intelligence and good humour made him an indispensable part of the life of the ship. In his primary role as the Ship's Medical Officer, his clinical competence, immediate action and growing work to help others ensured that he was highly valued. On many occasions at the Gulf, his words were heard to be deployed upon care to help Navy and Marine, whilst support to his doctors and other colleagues in need of help. In these busy scenarios, Ben's ability with the equipment quietly underpinning the role and caring for himself his patients.

A truly gifted Doctor and first class Naval Officer, Surgeon Lieutenant Mellor is very highly recommended for the Oliver Sword Award.

COMMANDEANT GENERAL ROYAL MARINES COMBINATION

LIEUTENANT AL BRINDEN ROYAL NAVY



Lieutenant Al Brinden was presented with his award of a Commendation Medal by the Commandant General on 25 July 2008, commencing his 42nd birthday.

Lieutenant Brinden was recognised for promoting his unit's bond and in the many difficult road miles, obstacles. The full list of his commendations is reproduced below.

On Friday 16 June 2006 Lieutenant Brinden was driving to work on route from his home. The traffic stopped and he became aware that a car in front of him was involved in an accident. The driver of the car had stopped and was clearly extremely upset. Lieutenant Brinden stopped and discovered that the vehicle had been involved in an accident with a motor cycle and that the cyclist's leg was trapped under the car. Lieutenant Brinden recovered the casualty and

immediately realised that he was not breathing and that his chest was being crushed by the weight of the air. Lieutenant Mandy immediately took charge of the situation and called around by stations who were frantically attempting to assist. Mandy rescued by two off duty Royal Marines about from Headquarters 3 Commando Brigade Royal Marines. Lieutenant Mandy diagnosed a cardiac arrest and lifted the vehicle off the victim. Once lifted, the casualty started spontaneous respiration. The casualty was assessed at the scene by Lieutenant Mandy prior to transfer to hospital where he sustained his first induced frequent epileptic convulsions. On arrival at hospital, he had a broken rib (bad chest) and a fractured pelvis.

In the judgement of the Brigade Senior Medical Officer it is very clear that without the immediate intervention of Lieutenant Mandy the casualty would certainly have died at the scene. Any delay in having him would have seriously resulted in tragic consequences. Due to large part in Lieutenant Mandy's swift and decisive action the casualty has hope for recovery in hospital.

Lieutenant Mandy demonstrated great professionalism under significant pressure, on the very first evaluation of both his Reserve and his British. His actions are worthy of recognition and he is therefore strongly recommended for that award.

Lieutenant Mandy is clearly in demand the post of second in command of the United Kingdom Medical Group in the work of Lieutenant Commander on operation HERBICK 1 in support of 3 Commando Brigade. In this post he will be helped to lead a medical group of over 200 personnel drawn from all 3 Services. He has extensive operational experience including leading a Commando Forward Support Group on the Al Faw Peninsula during OP Telic.

CEDRICUS POMMAUX BARON PELTY OFFICER'S REFERENCE: MEDICAL

POMMAUX ROOPER

POMMAUX ROOPER is an exceptional BA in every respect and certainly the most efficient and competent POMBA I have ever worked with. His energy and ingenuity has been pivotal in keeping the Medical Department of HMSA 2008/2009 and of Rott in a fully functioning department at sea. Equally his individual initiative and good humours has had a remarkably positive effect on the whole Medical Team as based with collectively have earned a GOOD assessment in ROST awarded by number 2000 assessment during the Operational Readiness Inspection. ROOPER's professionalism and knowledge were highly influential in that respect.

POMMAUX ROOPER has the full perspective of how the Medical Department for both Emergency and Accident Response should be deployed in a CVS. His skills as a leading First Aid training are second nature as is his ability to enhance confidence in both BA and First Aid training.

Being the only Operating Department Practitioner (ODP) onboard POMMAUX ROOPER single handedly made sure the Operating Theatre is appropriately equipped. Although his primary role is as an ODP POMMAUX ROOPER has the wider perspective of responsibility for an Operational Medical Department and accounts the knowledge of his general POMBA pool and many of his services.

Second Secretary in his First Officer's Mess. He has been part of a highly successful team who have earned significant sums of money for Charity including a Starliner Race during the Black Race in Gibraltar.

With genuine inherent ability and drive in duty he above has demonstrated POMMAUX ROOPER has provided an exceptional service and influenced several key events during the last year. His enthusiasm, drive and pride in the quality of his work have been an inspiration to the rest of the Medical Department and much have seen as one of the superior First Officers onboard. He

contributing, in a variety of official capacities, to the best, or, strongest possible representation for the team of the York Royal Flying Club's Officers' World.



RYMARS (left) receiving the Award from Lt. David Johns

CITATION FOR LMA OF THE YEAR AWARD

MAJORE

MAJORE joined the Royal Navy on the 15 November 1964 and on completion of Medical Assistant training worked at Royal Hospital Wexham and Portsmouth. She joined the Defence Medical Services Training Centre in July of this year as Lecturer Pharmacy Technician Training. Prior to this she was at The Defence Design School Portsmouth in the rank of L.A.M.A. It was during this time she attended and passed LEANING 1965. Her recent report praises her active participation and enthusiasm in the classroom combined with an excellent practical and record demonstrating advanced H.M.S. HEDYDA, while conducting virtually continuous operations. MAJORE's high standards were set and maintained across the course during inspections, her dress and bearing the highest noted within the training year. This award came results all her own power, gave her an extensive coverage of 40-50 and an excellent pass on the E.M.P.

MAJORE is currently at Southampton General Hospital working for Pharmacy Technician

training. A keen musician, enthusiastic and available, she has represented the Royal Navy at Wexham in South Wales from 27 August this year as well as the Combined Services. Selected for the Ladies Singles Team this year she competed in the World Championship at Wexham from 21 August to 2 September of this year, coming 7th across the whole field winning her 1st Ladies Singles Round in singles, in the UK.

An individual with exceptional drive and skill MAJORE will be awarded LMA in April 1967 and further opportunity of gaining a Certificate in the Royal Navy and is currently a CWI Candidate. During and following her exceptional performance in the UK, MAJORE has been awarded the rank of L.A.M.A. (1965) and is a



MAJORE (left) presenting award to MAJORE

CITIZENRY MA OF THE YEAR AWARD

MAJORE

MAJORE commenced Medical Assistant training in July 1965 having formerly changed from Operator-Mechanics. MAJORE's high standards were set and maintained across the course during inspections, her dress and bearing the highest noted within the training year. This award came results all her own power, gave her an extensive coverage of 40-50 and an excellent pass on the E.M.P.

colleges (which taught what many of his contemporaries struggled)

MA Evans continued to demonstrate these high standards during his Clinical Placement phase of training, receiving an outstanding report from his seniors who highlighted him as a hardworking individual with a willingness to learn and develop his practical and clinical skills. His deployment is professional and mature manner and was respected in patients and staff alike. During this phase of training he managed to complete 75% of his clinical work book.

Whilst in Royal Navy Single Service training he continued in the same vein, dedication and commitment becoming his trademark throughout his time at DMRTC where very excellent final exam results with an examination average of 92% & many with above average maturity leading to him be asked upon to discuss any and prove his assessment efficiently & effectively and when possible with humour.

He was positively awarded the Harbour Line prize for top cadet in his entry. Currently serving at Royal Naval Air Station, Devonport, he is looking forward to completing his MRSCOT training. Reports from RNAA Devonport confirm that MA Evans continues to apply himself 100% in all that he is a Royal Navy Medical Assistant responsible and able. MA Evans has doctors and the qualities required to be instrumental to the MA, of the future as well.



MA Evans (left) and MA Evans (right) standing together.

Academic Achievements

Surgeon-Commander J E Smith Royal Naval Medical Service Force, Maritime Force

Surgeon-Commander R F Richard Royal Navy
Naval Staff College, Specialist Commission in Plastic Surgery

Surgeon Lieutenant-Commander A Rahon Royal Navy
MSK in Sports and Exercise Medicine Awarded with distinction from QMUL on 10 May 2003

John Kemp gave the address at the Centre for Sports and Exercise Medicine, Barts and the London NPH Trust annual Scientific Conference

Surgeon Lieutenant-Commander David Curry Royal Navy
Diploma in Russian Medicine

Surgeon Lieutenant-Commander A Gibson Royal Navy
Passed RSCAB in Ophthalmology on 11 September 2003

Surgeon Lieutenant-Commander R A Miles Royal Navy
Assistant of the Faculty of Occupational Medicine

Surgeon Lieutenant-Commander S Philip-Ross Royal Navy

Specialist in the Faculty of Occupational Medicine

Surgeon Lieutenant-Commander J R F Miller Royal Navy
Assistant of the Faculty of Occupational Medicine

Lieutenant-Commander A Macey Royal Navy
Diploma in Emergency Planning

Kingston Lieutenant M Fleming Royal Navy
LtJ, Senior Master of the Order of Gold and Silver, holder of the Order of St John

Lieutenant J. Harrell Royal Navy
24 CMB Commission Award

CPOMA 15 Awarded Dartmouth (DPM) Award of the Merit Award, Service Medal

Obituary

Sergeant Captain Professor Sir Norman
Macdonald, BSc, MSc, PhD, FRS

Consultant Biologist Royal Navy
Professor of Virology, Manchester
Medical Advisor, Armed in Her Majesty the
Crown

[illegible]

Professor Herbert J. Hatcher, F.R.S., was born on the 21st of February 1874 into a medical family. His father John was a practitioner in Glasgow who later became the Professor of Pathology in St Bartholomew's Hospital and Medical School, London.

Norman Macdonald was educated at McGill University before attending the Royal Naval College, Dartmouth, where he received his BA in 1941. He then attended Glasgow University in Scotland. He produced MB ChB in 1949 and held junior appointments at the Royal and Western Infirmary in Glasgow before joining the Royal Navy as a Medical Officer in 1951. He held appointments at HM Ships *Thetis* and *Weymouth* before returning to Glasgow to establish his medical career.

He was a Hospital Registrar and Lecturer in Surgery in the Glasgow Royal Infirmary 1931-36, and Vascular Registrar at Ipswich and St Bartholomew's Hospital London 1936-1950. He became MRCS in 1937. However he had developed affection for the arts and the theatre. Several and subsequently opened the Royal Navy becoming a Consultant casualty in Cernig. Surgery before only specializing in a Consultant in Urology. His various included Royal Naval Hospital, Durham, Plymouth, India and later London where he founded and supervised the pre-war Department of Urological Surgery. He was a dedicated surgeon and developed many systems, and research interests in UK Hospital Units including prostate, anatomy, and urological disorders were carried out in anatomy and research and became the Navy's Director of Surgical Research. He was awarded the OBE in 1975 and CVO 1989. Following an accident severe Marfan's disease, passed from the Royal Navy in 1978 as a Senior Consultant.

was the Professor and Head of the Department of Botany, Western University of Montreal in Whitehorn Road, where from 1946 to 1961 he had an illustrious career. His broad-based botanical interests were focussed in 1947 and became the first Director of the Laboratory Centre which he had organized. He published extensively on the ecological functions and the systematic value of a number of ecological communities, and was an invited lecturer in Biology at the Universities of Edinburgh, Newcastle upon Tyne, and Royal Free, London.

Morison had a very gentle, independent, unspoiled sense of humor and generous personal confidence and trust in his partners. He was a great source of confidence and an experienced and powerful influence on generations of students, subjects and students—that the privilege to be one of them. He retired from the University in 1964.

In 1970 Herman Hirschfeld was appointed by King Moulaye the Queen as a Knight of Honour in order to honour him for his lifetime achievements throughout the Royal Household in Hirschfeld. In this capacity he was an ambassador to all his foreign visits and his appointment in 1987 in Bonn, Germany at the conclusion of his last Royal Tour that he was subsequently supposed to be awarded by the Queen as a Knight Commander of the Royal Warrant Order. He had been in Bonn, Germany a while when she died.

Margaret Blacklock married Margery Reed in 1934. They had one son, Neil, a General Practitioner in Chicago, a daughter, Faye, and a line of grandchildren. His interests included antique cars and boat racing.

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